antagonist of the invention. A calibrated lens micrometer is used by a blinded observer to determine the distance of the wound gap.

Experimental data are analyzed using an unpaired t test. A p value of < 0.05 is considered significant.

The studies described in this example tested activity of agonists or antagonists of the invention. However, one skilled in the art could easily modify the exemplified studies to test the activity of polynucleotides or polypeptides of the invention (e.g., gene therapy).

Example 29: Lymphadema Animal Model

The purpose of this experimental approach is to create an appropriate and consistent lymphedema model for testing the therapeutic effects of an agonist or antagonist of the invention in lymphangiogenesis and re-establishment of the lymphatic circulatory system in the rat hind limb. Effectiveness is measured by swelling volume of the affected limb, quantification of the amount of lymphatic vasculature, total blood plasma protein, and histopathology. Acute lymphedema is observed for 7-10 days. Perhaps more importantly, the chronic progress of the edema is followed for up to 3-4 weeks.

Prior to beginning surgery, blood sample is drawn for protein concentration analysis. Male rats weighing approximately ~350g are dosed with Pentobarbital. Subsequently, the right legs are shaved from knee to hip. The shaved area is swabbed with gauze soaked in 70% EtOH. Blood is drawn for serum total protein testing. Circumference and volumetric measurements are made prior to injecting dye into paws after marking 2 measurement levels (0.5 cm above heel, at mid-pt of dorsal paw). The intradermal dorsum of both right and left paws are injected with 0.05 ml of 1% Evan's Blue. Circumference and volumetric measurements are then made following injection of dye into paws.

Using the knee joint as a landmark, a mid-leg inguinal incision is made circumferentially allowing the femoral vessels to be located. Forceps and hemostats are used to dissect and separate the skin flaps. After locating the femoral vessels, the lymphatic vessel that runs along side and underneath the vessel(s) is located. The main lymphatic vessels in this area are then electrically coagulated or suture ligated.

Using a microscope, muscles in back of the leg (near the semitendinosis and adductors) are bluntly dissected. The popliteal lymph node is then located. The 2 proximal

and 2 distal lymphatic vessels and distal blood supply of the popliteal node are then and ligated by suturing. The popliteal lymph node, and any accompanying adipose tissue, is then removed by cutting connective tissues.

Care is taken to control any mild bleeding resulting from this procedure. After lymphatics are occluded, the skin flaps are sealed by using liquid skin (Vetbond) (AJ Buck). The separated skin edges are sealed to the underlying muscle tissue while leaving a gap of ~0.5 cm around the leg. Skin also may be anchored by suturing to underlying muscle when necessary.

To avoid infection, animals are housed individually with mesh (no bedding). Recovering animals are checked daily through the optimal edematous peak, which typically occurred by day 5-7. The plateau edematous peak are then observed. To evaluate the intensity of the lymphedema, the circumference and volumes of 2 designated places on each paw before operation and daily for 7 days are measured. The effect plasma proteins on lymphedema is determined and whether protein analysis is a useful testing perimeter is also investigated. The weights of both control and edematous limbs are evaluated at 2 places. Analysis is performed in a blind manner.

Circumference Measurements: Under brief gas anesthetic to prevent limb movement, a cloth tape is used to measure limb circumference. Measurements are done at the ankle bone and dorsal paw by 2 different people then those 2 readings are averaged. Readings are taken from both control and edematous limbs.

Volumetric Measurements: On the day of surgery, animals are anesthetized with Pentobarbital and are tested prior to surgery. For daily volumetrics animals are under brief halothane anesthetic (rapid immobilization and quick recovery), both legs are shaved and equally marked using waterproof marker on legs. Legs are first dipped in water, then dipped into instrument to each marked level then measured by Buxco edema software(Chen/Victor). Data is recorded by one person, while the other is dipping the limb to marked area.

Blood-plasma protein measurements: Blood is drawn, spun, and serum separated prior to surgery and then at conclusion for total protein and Ca2+ comparison.

Limb Weight Comparison: After drawing blood, the animal is prepared for tissue collection. The limbs are amputated using a quillitine, then both experimental and control legs are cut at the ligature and weighed. A second weighing is done as the tibio-cacaneal joint is disarticulated and the foot is weighed.

Histological Preparations: The transverse muscle located behind the knee (popliteal) area is dissected and arranged in a metal mold, filled with freezeGel, dipped into cold methylbutane, placed into labeled sample bags at - 80EC until sectioning. Upon sectioning, the muscle is observed under fluorescent microscopy for lymphatics..

The studies described in this example tested activity of agonists or antagonists of the invention. However, one skilled in the art could easily modify the exemplified studies to test the activity of polynucleotides or polypeptides of the invention (e.g., gene therapy).

Example 30: Suppression of TNF alpha-induced adhesion molecule expression by a Agonist or Antagonist of the Invention

The recruitment of lymphocytes to areas of inflammation and angiogenesis involves specific receptor-ligand interactions between cell surface adhesion molecules (CAMs) on lymphocytes and the vascular endothelium. The adhesion process, in both normal and pathological settings, follows a multi-step cascade that involves intercellular adhesion molecule-1 (ICAM-1), vascular cell adhesion molecule-1 (VCAM-1), and endothelial leukocyte adhesion molecule-1 (E-selectin) expression on endothelial cells (EC). The expression of these molecules and others on the vascular endothelium determines the efficiency with which leukocytes may adhere to the local vasculature and extravasate into the local tissue during the development of an inflammatory response. The local concentration of cytokines and growth factor participate in the modulation of the expression of these CAMs.

Tumor necrosis factor alpha (TNF-a), a potent proinflammatory cytokine, is a stimulator of all three CAMs on endothelial cells and may be involved in a wide variety of inflammatory responses, often resulting in a pathological outcome.

The potential of an agonist or antagonist of the invention to mediate a suppression of TNF-a induced CAM expression can be examined. A modified ELISA assay which uses ECs as a solid phase absorbent is employed to measure the amount of CAM expression on TNF-a treated ECs when co-stimulated with a member of the FGF family of proteins.

To perform the experiment, human umbilical vein endothelial cell (HUVEC) cultures are obtained from pooled cord harvests and maintained in growth medium (EGM-2; Clonetics, San Diego, CA) supplemented with 10% FCS and 1% penicillin/streptomycin in a 37 degree C humidified incubator containing 5% CO_2. HUVECs are seeded in 96-well

plates at concentrations of 1 x 10^4 cells/well in EGM medium at 37 degree C for 18-24 hrs or until confluent. The monolayers are subsequently washed 3 times with a serum-free solution of RPMI-1640 supplemented with 100 U/ml penicillin and 100 mg/ml streptomycin, and treated with a given cytokine and/or growth factor(s) for 24 h at 37 degree C. Following incubation, the cells are then evaluated for CAM expression.

Human Umbilical Vein Endothelial cells (HUVECs) are grown in a standard 96 well plate to confluence. Growth medium is removed from the cells and replaced with 90 ul of 199 Medium (10% FBS). Samples for testing and positive or negative controls are added to the plate in triplicate (in 10 ul volumes). Plates are incubated at 37 degree C for either 5 h (selectin and integrin expression) or 24 h (integrin expression only). Plates are aspirated to remove medium and 100 µl of 0.1% paraformaldehyde-PBS(with Ca++ and Mg++) is added to each well. Plates are held at 4°C for 30 min.

Fixative is then removed from the wells and wells are washed 1X with PBS(+Ca,Mg)+0.5% BSA and drained. Do not allow the wells to dry. Add 10 µl of diluted primary antibody to the test and control wells. Anti-ICAM-1-Biotin, Anti-VCAM-1-Biotin and Anti-E-selectin-Biotin are used at a concentration of 10 µg/ml (1:10 dilution of 0.1 mg/ml stock antibody). Cells are incubated at 37°C for 30 min. in a humidified environment. Wells are washed X3 with PBS(+Ca,Mg)+0.5% BSA.

Then add 20 µl of diluted ExtrAvidin-Alkaline Phosphotase (1:5,000 dilution) to each well and incubated at 37°C for 30 min. Wells are washed X3 with PBS(+Ca,Mg)+0.5% BSA. 1 tablet of p-Nitrophenol Phosphate pNPP is dissolved in 5 ml of glycine buffer (pH 10.4). 100 µl of pNPP substrate in glycine buffer is added to each test well. Standard wells in triplicate are prepared from the working dilution of the ExtrAvidin-Alkaline Phosphotase in glycine buffer: 1:5,000 (10^0) > $10^{-0.5}$ > 10^{-1} > $10^{-1.5}$. 5 µl of each dilution is added to triplicate wells and the resulting AP content in each well is 5.50 ng, 1.74 ng, 0.55 ng, 0.18 ng. 100 µl of pNNP reagent must then be added to each of the standard wells. The plate must be incubated at 37°C for 4h. A volume of 50 µl of 3M NaOH is added to all wells. The results are quantified on a plate reader at 405 nm. The background subtraction option is used on blank wells filled with glycine buffer only. The template is set up to indicate the concentration of AP-conjugate in each standard well [5.50 ng; 1.74 ng; 0.55 ng; 0.18 ng]. Results are indicated as amount of bound AP-conjugate in each sample.

The studies described in this example tested activity of agonists or antagonists of the

invention. However, one skilled in the art could easily modify the exemplified studies to test the activity of polynucleotides or polypeptides of the invention (e.g., gene therapy).

Example 31: Production Of Polypeptide of the Invention For High-Throughput Screening Assays

The following protocol produces a supernatant containing polypeptide of the present invention to be tested. This supernatant can then be used in the Screening Assays described in Examples 33-42.

First, dilute Poly-D-Lysine (644 587 Boehringer-Mannheim) stock solution (1mg/ml in PBS) 1:20 in PBS (w/o calcium or magnesium 17-516F Biowhittaker) for a working solution of 50ug/ml. Add 200 ul of this solution to each well (24 well plates) and incubate at RT for 20 minutes. Be sure to distribute the solution over each well (note: a 12-channel pipetter may be used with tips on every other channel). Aspirate off the Poly-D-Lysine solution and rinse with 1ml PBS (Phosphate Buffered Saline). The PBS should remain in the well until just prior to plating the cells and plates may be poly-lysine coated in advance for up to two weeks.

Plate 293T cells (do not carry cells past P+20) at 2 x 10^5 cells/well in .5ml DMEM(Dulbecco's Modified Eagle Medium)(with 4.5 G/L glucose and L-glutamine (12-604F Biowhittaker))/10% heat inactivated FBS(14-503F Biowhittaker)/1x Penstrep(17-602E Biowhittaker). Let the cells grow overnight.

The next day, mix together in a sterile solution basin: 300 ul Lipofectamine (18324-012 Gibco/BRL) and 5ml Optimem I (31985070 Gibco/BRL)/96-well plate. With a small volume multi-channel pipetter, aliquot approximately 2ug of an expression vector containing a polynucleotide insert, produced by the methods described in Examples 8-10, into an appropriately labeled 96-well round bottom plate. With a multi-channel pipetter, add 50ul of the Lipofectamine/Optimem I mixture to each well. Pipette up and down gently to mix. Incubate at RT 15-45 minutes. After about 20 minutes, use a multi-channel pipetter to add 150ul Optimem I to each well. As a control, one plate of vector DNA lacking an insert should be transfected with each set of transfections.

Preferably, the transfection should be performed by tag-teaming the following tasks. By tag-teaming, hands on time is cut in half, and the cells do not spend too much time on

PBS. First, person A aspirates off the media from four 24-well plates of cells, and then person B rinses each well with .5-1ml PBS. Person A then aspirates off PBS rinse, and person B, using a12-channel pipetter with tips on every other channel, adds the 200ul of DNA/Lipofectamine/Optimem I complex to the odd wells first, then to the even wells, to each row on the 24-well plates. Incubate at 37 degree C for 6 hours.

While cells are incubating, prepare appropriate media, either 1%BSA in DMEM with 1x penstrep, or HGS CHO-5 media (116.6 mg/L of CaCl2 (anhyd); 0.00130 mg/L $CuSO_4$-$5H_2O$; 0.050 mg/L of $Fe(NO_3)_3$-$9H_2O$; 0.417 mg/L of $FeSO_4$-$7H_2O$; 311.80 mg/L of Kcl; 28.64 mg/L of $MgCl_2$; 48.84 mg/L of $MgSO_4$; 6995.50 mg/L of NaCl; 2400.0 mg/L of $NaHCO_3$; 62.50 mg/L of NaH_2PO_4-H_20; 71.02 mg/L of Na_2HPO4; .4320 mg/L of $ZnSO_4$-$7H_2O$; .002 mg/L of Arachidonic Acid ; 1.022 mg/L of Cholesterol; .070 mg/L of DL-alpha-Tocopherol-Acetate; 0.0520 mg/L of Linoleic Acid; 0.010 mg/L of Linolenic Acid; 0.010 mg/L of Myristic Acid; 0.010 mg/L of Oleic Acid; 0.010 mg/L of Palmitric Acid; 0.010 mg/L of Palmitic Acid; 100 mg/L of Pluronic F-68; 0.010 mg/L of Stearic Acid; 2.20 mg/L of Tween 80; 4551 mg/L of D-Glucose; 130.85 mg/ml of L- Alanine; 147.50 mg/ml of L-Arginine-HCL; 7.50 mg/ml of L-Asparagine-H_20; 6.65 mg/ml of L-Aspartic Acid; 29.56 mg/ml of L-Cystine-2HCL-H_20; 31.29 mg/ml of L-Cystine-2HCL; 7.35 mg/ml of L-Glutamic Acid; 365.0 mg/ml of L-Glutamine; 18.75 mg/ml of Glycine; 52.48 mg/ml of L-Histidine-HCL-H_20; 106.97 mg/ml of L-Isoleucine; 111.45 mg/ml of L-Leucine; 163.75 mg/ml of L-Lysine HCL; 32.34 mg/ml of L-Methionine; 68.48 mg/ml of L-Phenylalainine; 40.0 mg/ml of L-Proline; 26.25 mg/ml of L-Serine; 101.05 mg/ml of L-Threonine; 19.22 mg/ml of L-Tryptophan; 91.79 mg/ml of L-Tryrosine-2Na-$2H_20$; and 99.65 mg/ml of L-Valine; 0.0035 mg/L of Biotin; 3.24 mg/L of D-Ca Pantothenate; 11.78 mg/L of Choline Chloride; 4.65 mg/L of Folic Acid; 15.60 mg/L of i-Inositol; 3.02 mg/L of Niacinamide; 3.00 mg/L of Pyridoxal HCL; 0.031 mg/L of Pyridoxine HCL; 0.319 mg/L of Riboflavin; 3.17 mg/L of Thiamine HCL; 0.365 mg/L of Thymidine; 0.680 mg/L of Vitamin B_{12}; 25 mM of HEPES Buffer; 2.39 mg/L of Na Hypoxanthine; 0.105 mg/L of Lipoic Acid; 0.081 mg/L of Sodium Putrescine-2HCL; 55.0 mg/L of Sodium Pyruvate; 0.0067 mg/L of Sodium Selenite; 20uM of Ethanolamine; 0.122 mg/L of Ferric Citrate; 41.70 mg/L of Methyl-B-Cyclodextrin complexed with Linoleic Acid; 33.33 mg/L of Methyl-B-Cyclodextrin complexed with Oleic Acid; 10 mg/L of Methyl-B-Cyclodextrin complexed with Retinal Acetate. Adjust

osmolarity to 327 mOsm) with 2mm glutamine and 1x penstrep. (BSA (81-068-3 Bayer) 100gm dissolved in 1L DMEM for a 10% BSA stock solution). Filter the media and collect 50 ul for endotoxin assay in 15ml polystyrene conical.

The transfection reaction is terminated, preferably by tag-teaming, at the end of the incubation period. Person A aspirates off the transfection media, while person B adds 1.5ml appropriate media to each well. Incubate at 37 degree C for 45 or 72 hours depending on the media used: 1%BSA for 45 hours or CHO-5 for 72 hours.

On day four, using a 300ul multichannel pipetter, aliquot 600ul in one 1ml deep well plate and the remaining supernatant into a 2ml deep well. The supernatants from each well can then be used in the assays described in Examples 33-40.

It is specifically understood that when activity is obtained in any of the assays described below using a supernatant, the activity originates from either the polypeptide of the present invention directly (e.g., as a secreted protein) or by polypeptide of the present invention inducing expression of other proteins, which are then secreted into the supernatant. Thus, the invention further provides a method of identifying the protein in the supernatant characterized by an activity in a particular assay.

Example 32: Construction of GAS Reporter Construct

One signal transduction pathway involved in the differentiation and proliferation of cells is called the Jaks-STATs pathway. Activated proteins in the Jaks-STATs pathway bind to gamma activation site "GAS" elements or interferon-sensitive responsive element ("ISRE"), located in the promoter of many genes. The binding of a protein to these elements alter the expression of the associated gene.

GAS and ISRE elements are recognized by a class of transcription factors called Signal Transducers and Activators of Transcription, or "STATs." There are six members of the STATs family. Stat1 and Stat3 are present in many cell types, as is Stat2 (as response to IFN-alpha is widespread). Stat4 is more restricted and is not in many cell types though it has been found in T helper class I, cells after treatment with IL-12. Stat5 was originally called mammary growth factor, but has been found at higher concentrations in other cells including myeloid cells. It can be activated in tissue culture cells by many cytokines.

The STATs are activated to translocate from the cytoplasm to the nucleus upon

tyrosine phosphorylation by a set of kinases known as the Janus Kinase ("Jaks") family. Jaks represent a distinct family of soluble tyrosine kinases and include Tyk2, Jak1, Jak2, and Jak3. These kinases display significant sequence similarity and are generally catalytically inactive in resting cells.

The Jaks are activated by a wide range of receptors summarized in the Table below. (Adapted from review by Schidler and Darnell, Ann. Rev. Biochem. 64:621-51 (1995).) A cytokine receptor family, capable of activating Jaks, is divided into two groups: (a) Class 1 includes receptors for IL-2, IL-3, IL-4, IL-6, IL-7, IL-9, IL-11, IL-12, IL-15, Epo, PRL, GH, G-CSF, GM-CSF, LIF, CNTF, and thrombopoietin; and (b) Class 2 includes IFN-a, IFN-g, and IL-10. The Class 1 receptors share a conserved cysteine motif (a set of four conserved cysteines and one tryptophan) and a WSXWS motif (a membrane proximal region encoding Trp-Ser-Xxx-Trp-Ser (SEQ ID NO:1686)).

Thus, on binding of a ligand to a receptor, Jaks are activated, which in turn activate STATs, which then translocate and bind to GAS elements. This entire process is encompassed in the Jaks-STATs signal transduction pathway.

Therefore, activation of the Jaks-STATs pathway, reflected by the binding of the GAS or the ISRE element, can be used to indicate proteins involved in the proliferation and differentiation of cells. For example, growth factors and cytokines are known to activate the Jaks-STATs pathway. (See Table below.) Thus, by using GAS elements linked to reporter molecules, activators of the Jaks-STATs pathway can be identified.

Ligand	JAKs tyk2	Jak1	Jak2	Jak3	STATS	GAS(elements) or ISRE
IFN family						
IFN-a/B	+	+	-	-	1,2,3	ISRE
IFN-g		+	+	-	1	GAS
(IRF1>Lys6>IFP)						
Il-10	+	?	?	-	1,3	
gp130 family						
IL-6 (Pleiotrohic)	+	+	+	?	1,3	GAS
(IRF1>Lys6>IFP)						
Il-11(Pleiotrohic)	?	+	?	?	1,3	
OnM(Pleiotrohic)	?	+	+	?	1,3	
LIF(Pleiotrohic)	?	+	+	?	1,3	
CNTF(Pleiotrohic)	-/+	+	+	?	1,3	
G-CSF(Pleiotrohic)	?	+	?	?	1,3	
IL-12(Pleiotrohic)	+	-	+	+	1,3	
g-C family						
IL-2 (lymphocytes)	-	+	-	+	1,3,5	GAS
IL-4 (lymph/myeloid)	-	+	-	+	6	GAS (IRF1 = IFP >>Ly6)(IgH)
IL-7 (lymphocytes)	-	+	-	+	5	GAS
IL-9 (lymphocytes)	-	+	-	+	5	GAS
IL-13 (lymphocyte)	-	+	?	?	6	GAS
IL-15	?	+	?	+	5	GAS
gp140 family						
IL-3 (myeloid)	-	-	+	-	5	GAS
(IRF1>IFP>>Ly6)						
IL-5 (myeloid)	-	-	+	-	5	GAS
GM-CSF (myeloid)	-	-	+	-	5	GAS

Growth hormone family						
GH	?	-	+	-	5	
PRL	?	+/-	+	-	1,3,5	
EPO	?	-	+	-	5	GAS(B-CAS>IRF1=IFP>>Ly6)
Receptor Tyrosine Kinases						
EGF	?	+	+	-	1,3	GAS (IRF1)
PDGF	?	+	+	-	1,3	
CSF-1	?	+	+	-	1,3	GAS (not IRF1)

To construct a synthetic GAS containing promoter element, which is used in the Biological Assays described in Examples 33-34, a PCR based strategy is employed to generate a GAS-SV40 promoter sequence. The 5' primer contains four tandem copies of the GAS binding site found in the IRF1 promoter and previously demonstrated to bind STATs upon induction with a range of cytokines (Rothman et al., Immunity 1:457-468 (1994).), although other GAS or ISRE elements can be used instead. The 5' primer also contains 18bp of sequence complementary to the SV40 early promoter sequence and is flanked with an XhoI site. The sequence of the 5' primer is:

5':GCGCCTCGAGATTTCCCCGAAATCTAGATTTCCCCGAAATGATTTCCCC GAAATGATTTCCCCGAAATATCTGCCATCTCAATTAG:3' (SEQ ID NO:1687)

The downstream primer is complementary to the SV40 promoter and is flanked with a Hind III site: 5':GCGGCAAGCTTTTTGCAAAGCCTAGGC:3' (SEQ ID NO:1688)

PCR amplification is performed using the SV40 promoter template present in the B-gal:promoter plasmid obtained from Clontech. The resulting PCR fragment is digested with XhoI/Hind III and subcloned into BLSK2-. (Stratagene.) Sequencing with forward and reverse primers confirms that the insert contains the following sequence:

5':<u>CTCGAG</u>ATTTCCCCGAAATCTAGATTTCCCCGAAATGATTTCCCCGAAA TGATTTCCCCGAAATATCTGCCATCTCAATTAGTCAGCAACCATAGTCCCG CCCCTAACTCCGCCCATCCCGCCCCTAACTCCGCCCAGTTCCGCCCATTCT CCGCCCCATGGCTGACTAATTTTTTTTATTTATGCAGAGGCCGAGGCCGCC TCGGCCTCTGAGCTATTCCAGAAGTAGTGAGGAGGCTTTTTTGGAGGCCTA GGCTTTTGCAAA<u>AAGCTT</u>:3' (SEQ ID NO:1689)

With this GAS promoter element linked to the SV40 promoter, a GAS:SEAP2 reporter construct is next engineered. Here, the reporter molecule is a secreted alkaline phosphatase, or "SEAP." Clearly, however, any reporter molecule can be instead of SEAP, in this or in any of the other Examples. Well known reporter molecules that can be used instead of SEAP include chloramphenicol

acetyltransferase (CAT), luciferase, alkaline phosphatase, B-galactosidase, green fluorescent protein (GFP), or any protein detectable by an antibody.

The above sequence confirmed synthetic GAS-SV40 promoter element is subcloned into the pSEAP-Promoter vector obtained from Clontech using HindIII and XhoI, effectively replacing the SV40 promoter with the amplified GAS:SV40 promoter element, to create the GAS-SEAP vector. However, this vector does not contain a neomycin resistance gene, and therefore, is not preferred for mammalian expression systems.

Thus, in order to generate mammalian stable cell lines expressing the GAS-SEAP reporter, the GAS-SEAP cassette is removed from the GAS-SEAP vector using SalI and NotI, and inserted into a backbone vector containing the neomycin resistance gene, such as pGFP-1 (Clontech), using these restriction sites in the multiple cloning site, to create the GAS-SEAP/Neo vector. Once this vector is transfected into mammalian cells, this vector can then be used as a reporter molecule for GAS binding as described in Examples 33-34.

Other constructs can be made using the above description and replacing GAS with a different promoter sequence. For example, construction of reporter molecules containing NFK-B and EGR promoter sequences are described in Examples 35 and 36. However, many other promoters can be substituted using the protocols described in these Examples. For instance, SRE, IL-2, NFAT, or Osteocalcin promoters can be substituted, alone or in combination (e.g., GAS/NF-KB/EGR, GAS/NF-KB, Il-2/NFAT, or NF-KB/GAS). Similarly, other cell lines can be used to test reporter construct activity, such as HELA (epithelial), HUVEC (endothelial), Reh (B-cell), Saos-2 (osteoblast), HUVAC (aortic), or Cardiomyocyte.

Example 33: High-Throughput Screening Assay for T-cell Activity.

The following protocol is used to assess T-cell activity by identifying factors, and determining whether supernate containing a polypeptide of the invention proliferates and/or differentiates T-cells. T-cell activity is assessed using the

GAS/SEAP/Neo construct produced in Example 32. Thus, factors that increase SEAP activity indicate the ability to activate the Jaks-STATS signal transduction pathway. The T-cell used in this assay is Jurkat T-cells (ATCC Accession No. TIB-152), although Molt-3 cells (ATCC Accession No. CRL-1552) and Molt-4 cells (ATCC Accession No. CRL-1582) cells can also be used.

Jurkat T-cells are lymphoblastic CD4+ Th1 helper cells. In order to generate stable cell lines, approximately 2 million Jurkat cells are transfected with the GAS-SEAP/neo vector using DMRIE-C (Life Technologies)(transfection procedure described below). The transfected cells are seeded to a density of approximately 20,000 cells per well and transfectants resistant to 1 mg/ml genticin selected. Resistant colonies are expanded and then tested for their response to increasing concentrations of interferon gamma. The dose response of a selected clone is demonstrated.

Specifically, the following protocol will yield sufficient cells for 75 wells containing 200 ul of cells. Thus, it is either scaled up, or performed in multiple to generate sufficient cells for multiple 96 well plates. Jurkat cells are maintained in RPMI + 10% serum with 1%Pen-Strep. Combine 2.5 mls of OPTI-MEM (Life Technologies) with 10 ug of plasmid DNA in a T25 flask. Add 2.5 ml OPTI-MEM containing 50 ul of DMRIE-C and incubate at room temperature for 15-45 mins.

During the incubation period, count cell concentration, spin down the required number of cells (10^7 per transfection), and resuspend in OPTI-MEM to a final concentration of 10^7 cells/ml. Then add 1ml of 1 x 10^7 cells in OPTI-MEM to T25 flask and incubate at 37 degree C for 6 hrs. After the incubation, add 10 ml of RPMI + 15% serum.

The Jurkat:GAS-SEAP stable reporter lines are maintained in RPMI + 10% serum, 1 mg/ml Genticin, and 1% Pen-Strep. These cells are treated with supernatants containing polypeptide of the present invention or polypeptide of the present invention induced polypeptides as produced by the protocol described in Example 31.

On the day of treatment with the supernatant, the cells should be washed and

resuspended in fresh RPMI + 10% serum to a density of 500,000 cells per ml. The exact number of cells required will depend on the number of supernatants being screened. For one 96 well plate, approximately 10 million cells (for 10 plates, 100 million cells) are required.

Transfer the cells to a triangular reservoir boat, in order to dispense the cells into a 96 well dish, using a 12 channel pipette. Using a 12 channel pipette, transfer 200 ul of cells into each well (therefore adding 100, 000 cells per well).

After all the plates have been seeded, 50 ul of the supernatants are transferred directly from the 96 well plate containing the supernatants into each well using a 12 channel pipette. In addition, a dose of exogenous interferon gamma (0.1, 1.0, 10 ng) is added to wells H9, H10, and H11 to serve as additional positive controls for the assay.

The 96 well dishes containing Jurkat cells treated with supernatants are placed in an incubator for 48 hrs (note: this time is variable between 48-72 hrs). 35 ul samples from each well are then transferred to an opaque 96 well plate using a 12 channel pipette. The opaque plates should be covered (using sellophene covers) and stored at -20 degree C until SEAP assays are performed according to Example 37. The plates containing the remaining treated cells are placed at 4 degree C and serve as a source of material for repeating the assay on a specific well if desired.

As a positive control, 100 Unit/ml interferon gamma can be used which is known to activate Jurkat T cells. Over 30 fold induction is typically observed in the positive control wells.

The above protocol may be used in the generation of both transient, as well as, stable transfected cells, which would be apparent to those of skill in the art.

Example 34: High-Throughput Screening Assay Identifying Myeloid Activity

The following protocol is used to assess myeloid activity of polypeptide of the present invention by determining whether polypeptide of the present invention proliferates and/or differentiates myeloid cells. Myeloid cell activity is assessed using

the GAS/SEAP/Neo construct produced in Example 32. Thus, factors that increase SEAP activity indicate the ability to activate the Jaks-STATS signal transduction pathway. The myeloid cell used in this assay is U937, a pre-monocyte cell line, although TF-1, HL60, or KG1 can be used.

To transiently transfect U937 cells with the GAS/SEAP/Neo construct produced in Example 32, a DEAE-Dextran method (Kharbanda et. al., 1994, Cell Growth & Differentiation, 5:259-265) is used. First, harvest 2x10e^7 U937 cells and wash with PBS. The U937 cells are usually grown in RPMI 1640 medium containing 10% heat-inactivated fetal bovine serum (FBS) supplemented with 100 units/ml penicillin and 100 mg/ml streptomycin.

Next, suspend the cells in 1 ml of 20 mM Tris-HCl (pH 7.4) buffer containing 0.5 mg/ml DEAE-Dextran, 8 ug GAS-SEAP2 plasmid DNA, 140 mM NaCl, 5 mM KCl, 375 uM $Na_2HPO_4.7H_2O$, 1 mM $MgCl_2$, and 675 uM $CaCl_2$. Incubate at 37 degrees C for 45 min.

Wash the cells with RPMI 1640 medium containing 10% FBS and then resuspend in 10 ml complete medium and incubate at 37 degree C for 36 hr.

The GAS-SEAP/U937 stable cells are obtained by growing the cells in 400 ug/ml G418. The G418-free medium is used for routine growth but every one to two months, the cells should be re-grown in 400 ug/ml G418 for couple of passages.

These cells are tested by harvesting $1x10^8$ cells (this is enough for ten 96-well plates assay) and wash with PBS. Suspend the cells in 200 ml above described growth medium, with a final density of $5x10^5$ cells/ml. Plate 200 ul cells per well in the 96-well plate (or $1x10^5$ cells/well).

Add 50 ul of the supernatant prepared by the protocol described in Example 31. Incubate at 37 degee C for 48 to 72 hr. As a positive control, 100 Unit/ml interferon gamma can be used which is known to activate U937 cells. Over 30 fold induction is typically observed in the positive control wells. SEAP assay the supernatant according to the protocol described in Example 37.

Example 35: High-Throughput Screening Assay Identifying Neuronal Activity.

When cells undergo differentiation and proliferation, a group of genes are activated through many different signal transduction pathways. One of these genes, EGR1 (early growth response gene 1), is induced in various tissues and cell types upon activation. The promoter of EGR1 is responsible for such induction. Using the EGR1 promoter linked to reporter molecules, activation of cells can be assessed by polypeptide of the present invention.

Particularly, the following protocol is used to assess neuronal activity in PC12 cell lines. PC12 cells (rat phenochromocytoma cells) are known to proliferate and/or differentiate by activation with a number of mitogens, such as TPA (tetradecanoyl phorbol acetate), NGF (nerve growth factor), and EGF (epidermal growth factor). The EGR1 gene expression is activated during this treatment. Thus, by stably transfecting PC12 cells with a construct containing an EGR promoter linked to SEAP reporter, activation of PC12 cells by polypeptide of the present invention can be assessed.

The EGR/SEAP reporter construct can be assembled by the following protocol. The EGR-1 promoter sequence (-633 to +1)(Sakamoto K et al., Oncogene 6:867-871 (1991)) can be PCR amplified from human genomic DNA using the following primers:

5' GCGCTCGAGGGATGACAGCGATAGAACCCCGG -3' (SEQ ID NO: 1690)

5' GCGAAGCTTCGCGACTCCCCGGATCCGCCTC-3' (SEQ ID NO: 1691)

Using the GAS:SEAP/Neo vector produced in Example 32, EGR1 amplified product can then be inserted into this vector. Linearize the GAS:SEAP/Neo vector using restriction enzymes XhoI/HindIII, removing the GAS/SV40 stuffer. Restrict the EGR1 amplified product with these same enzymes. Ligate the vector and the EGR1 promoter.

To prepare 96 well-plates for cell culture, two mls of a coating solution (1:30 dilution of collagen type I (Upstate Biotech Inc. Cat#08-115) in 30% ethanol (filter

sterilized)) is added per one 10 cm plate or 50 ml per well of the 96-well plate, and allowed to air dry for 2 hr.

PC12 cells are routinely grown in RPMI-1640 medium (Bio Whittaker) containing 10% horse serum (JRH BIOSCIENCES, Cat. # 12449-78P), 5% heat-inactivated fetal bovine serum (FBS) supplemented with 100 units/ml penicillin and 100 ug/ml streptomycin on a precoated 10 cm tissue culture dish. One to four split is done every three to four days. Cells are removed from the plates by scraping and resuspended with pipetting up and down for more than 15 times.

Transfect the EGR/SEAP/Neo construct into PC12 using the Lipofectamine protocol described in Example 31. EGR-SEAP/PC12 stable cells are obtained by growing the cells in 300 ug/ml G418. The G418-free medium is used for routine growth but every one to two months, the cells should be re-grown in 300 ug/ml G418 for couple of passages.

To assay for neuronal activity, a 10 cm plate with cells around 70 to 80% confluent is screened by removing the old medium. Wash the cells once with PBS (Phosphate buffered saline). Then starve the cells in low serum medium (RPMI-1640 containing 1% horse serum and 0.5% FBS with antibiotics) overnight.

The next morning, remove the medium and wash the cells with PBS. Scrape off the cells from the plate, suspend the cells well in 2 ml low serum medium. Count the cell number and add more low serum medium to reach final cell density as $5x10^5$ cells/ml.

Add 200 ul of the cell suspension to each well of 96-well plate (equivalent to $1x10^5$ cells/well). Add 50 ul supernatant produced by Example 31, 37 degree C for 48 to 72 hr. As a positive control, a growth factor known to activate PC12 cells through EGR can be used, such as 50 ng/ul of Neuronal Growth Factor (NGF). Over fifty-fold induction of SEAP is typically seen in the positive control wells. SEAP assay the supernatant according to Example 37.

Example 36: High-Throughput Screening Assay for T-cell Activity

NF-KB (Nuclear Factor KB) is a transcription factor activated by a wide variety of agents including the inflammatory cytokines IL-1 and TNF, CD30 and CD40, lymphotoxin-alpha and lymphotoxin-beta, by exposure to LPS or thrombin, and by expression of certain viral gene products. As a transcription factor, NF-KB regulates the expression of genes involved in immune cell activation, control of apoptosis (NF- KB appears to shield cells from apoptosis), B and T-cell development, anti-viral and antimicrobial responses, and multiple stress responses.

In non-stimulated conditions, NF- KB is retained in the cytoplasm with I-KB (Inhibitor KB). However, upon stimulation, I- KB is phosphorylated and degraded, causing NF- KB to shuttle to the nucleus, thereby activating transcription of target genes. Target genes activated by NF- KB include IL-2, IL-6, GM-CSF, ICAM-1 and class 1 MHC.

Due to its central role and ability to respond to a range of stimuli, reporter constructs utilizing the NF-KB promoter element are used to screen the supernatants produced in Example 31. Activators or inhibitors of NF-KB would be useful in treating, preventing, and/or diagnosing diseases. For example, inhibitors of NF-KB could be used to treat those diseases related to the acute or chronic activation of NF-KB, such as rheumatoid arthritis.

To construct a vector containing the NF-KB promoter element, a PCR based strategy is employed. The upstream primer contains four tandem copies of the NF-KB binding site (GGGGACTTTCCC) (SEQ ID NO:1692), 18 bp of sequence complementary to the 5' end of the SV40 early promoter sequence, and is flanked with an XhoI site:

5':GCGGCCTCGAGGGGACTTTCCCGGGGACTTTCCGGGGACTTTCCGGGAC TTTCCATCCTGCCATCTCAATTAG:3' (SEQ ID NO:1693)

The downstream primer is complementary to the 3' end of the SV40 promoter and is flanked with a Hind III site:

5':GCGGCAAGCTTTTTGCAAAGCCTAGGC:3' (SEQ ID NO:1688)

PCR amplification is performed using the SV40 promoter template present in the pB-gal:promoter plasmid obtained from Clontech. The resulting PCR fragment is

digested with XhoI and Hind III and subcloned into BLSK2-. (Stratagene) Sequencing with the T7 and T3 primers confirms the insert contains the following sequence:

5':CTCGAGGGGACTTTCCCGGGGACTTTCCGGGGACTTTCCGGGACTTTCC
ATCTGCCATCTCAATTAGTCAGCAACCATAGTCCCGCCCCTAACTCCGCCC
ATCCCGCCCCTAACTCCGCCCAGTTCCGCCCATTCTCCGCCCCATGGCTGA
CTAATTTTTTTTATTTATGCAGAGGCCGAGGCCGCCTCGGCCTCTGAGCTA
TTCCAGAAGTAGTGAGGAGGCTTTTTTGGAGGCCTAGGCTTTTGCAAAAA
GCTT:3' (SEQ ID NO:1694)

Next, replace the SV40 minimal promoter element present in the pSEAP2-promoter plasmid (Clontech) with this NF-KB/SV40 fragment using XhoI and HindIII. However, this vector does not contain a neomycin resistance gene, and therefore, is not preferred for mammalian expression systems.

In order to generate stable mammalian cell lines, the NF-KB/SV40/SEAP cassette is removed from the above NF-KB/SEAP vector using restriction enzymes SalI and NotI, and inserted into a vector containing neomycin resistance. Particularly, the NF-KB/SV40/SEAP cassette was inserted into pGFP-1 (Clontech), replacing the GFP gene, after restricting pGFP-1 with SalI and NotI.

Once NF-KB/SV40/SEAP/Neo vector is created, stable Jurkat T-cells are created and maintained according to the protocol described in Example 33. Similarly, the method for assaying supernatants with these stable Jurkat T-cells is also described in Example 33. As a positive control, exogenous TNF alpha (0.1,1, 10 ng) is added to wells H9, H10, and H11, with a 5-10 fold activation typically observed.

Example 37: Assay for SEAP Activity

As a reporter molecule for the assays described in Examples 33-36, SEAP activity is assayed using the Tropix Phospho-light Kit (Cat. BP-400) according to the following general procedure. The Tropix Phospho-light Kit supplies the Dilution, Assay, and Reaction Buffers used below.

Prime a dispenser with the 2.5x Dilution Buffer and dispense 15 ul of 2.5x dilution buffer into Optiplates containing 35 ul of a supernatant. Seal the plates with a plastic sealer and incubate at 65 degree C for 30 min. Separate the Optiplates to avoid uneven heating.

Cool the samples to room temperature for 15 minutes. Empty the dispenser and prime with the Assay Buffer. Add 50 ml Assay Buffer and incubate at room temperature 5 min. Empty the dispenser and prime with the Reaction Buffer (see the table below).. Add 50 ul Reaction Buffer and incubate at room temperature for 20 minutes. Since the intensity of the chemiluminescent signal is time dependent, and it takes about 10 minutes to read 5 plates on luminometer, one should treat 5 plates at each time and start the second set 10 minutes later.

Read the relative light unit in the luminometer. Set H12 as blank, and print the results. An increase in chemiluminescence indicates reporter activity.

Reaction Buffer Formulation:

# of plates	Rxn buffer diluent (ml)	CSPD (ml)
10	60	3
11	65	3.25
12	70	3.5
13	75	3.75
14	80	4
15	85	4.25
16	90	4.5
17	95	4.75
18	100	5
19	105	5.25
20	110	5.5
21	115	5.75
22	120	6

23	125	6.25
24	130	6.5
25	135	6.75
26	140	7
27	145	7.25
28	150	7.5
29	155	7.75
30	160	8
31	165	8.25
32	170	8.5
33	175	8.75
34	180	9
35	185	9.25
36	190	9.5
37	195	9.75
38	200	10
39	205	10.25
40	210	10.5
41	215	10.75
42	220	11
43	225	11.25
44	230	11.5
45	235	11.75
46	240	12
47	245	12.25
48	250	12.5
49	255	12.75
50	260	13

Example 38: High-Throughput Screening Assay Identifying Changes in Small

Molecule Concentration and Membrane Permeability

Binding of a ligand to a receptor is known to alter intracellular levels of small molecules, such as calcium, potassium, sodium, and pH, as well as alter membrane potential. These alterations can be measured in an assay to identify supernatants which bind to receptors of a particular cell. Although the following protocol describes an assay for calcium, this protocol can easily be modified to detect changes in potassium, sodium, pH, membrane potential, or any other small molecule which is detectable by a fluorescent probe.

The following assay uses Fluorometric Imaging Plate Reader ("FLIPR") to measure changes in fluorescent molecules (Molecular Probes) that bind small molecules. Clearly, any fluorescent molecule detecting a small molecule can be used instead of the calcium fluorescent molecule, fluo-4 (Molecular Probes, Inc.; catalog no. F-14202), used here.

For adherent cells, seed the cells at 10,000 -20,000 cells/well in a Co-star black 96-well plate with clear bottom. The plate is incubated in a CO_2 incubator for 20 hours. The adherent cells are washed two times in Biotek washer with 200 ul of HBSS (Hank's Balanced Salt Solution) leaving 100 ul of buffer after the final wash.

A stock solution of 1 mg/ml fluo-4 is made in 10% pluronic acid DMSO. To load the cells with fluo-4 , 50 ul of 12 ug/ml fluo-4 is added to each well. The plate is incubated at 37 degrees C in a CO_2 incubator for 60 min. The plate is washed four times in the Biotek washer with HBSS leaving 100 ul of buffer.

For non-adherent cells, the cells are spun down from culture media. Cells are re-suspended to 2-5x10^6 cells/ml with HBSS in a 50-ml conical tube. 4 ul of 1 mg/ml fluo-4 solution in 10% pluronic acid DMSO is added to each ml of cell suspension. The tube is then placed in a 37 degrees C water bath for 30-60 min. The cells are washed twice with HBSS, resuspended to 1x10^6 cells/ml, and dispensed into a microplate, 100 ul/well. The plate is centrifuged at 1000 rpm for 5 min. The plate is then washed once in Denley Cell Wash with 200 ul, followed by an aspiration step to 100 ul final volume.

For a non-cell based assay, each well contains a fluorescent molecule, such as fluo-4 . The supernatant is added to the well, and a change in fluorescence is detected.

To measure the fluorescence of intracellular calcium, the FLIPR is set for the following parameters: (1) System gain is 300-800 mW; (2) Exposure time is 0.4 second; (3) Camera F/stop is F/2; (4) Excitation is 488 nm; (5) Emission is 530 nm; and (6) Sample addition is 50 ul. Increased emission at 530 nm indicates an extracellular signaling event caused by the a molecule, either polypeptide of the present invention or a molecule induced by polypeptide of the present invention, which has resulted in an increase in the intracellular Ca^{++} concentration.

Example 40: High-Throughput Screening Assay Identifying Tyrosine Kinase Activity

The Protein Tyrosine Kinases (PTK) represent a diverse group of transmembrane and cytoplasmic kinases. Within the Receptor Protein Tyrosine Kinase RPTK) group are receptors for a range of mitogenic and metabolic growth factors including the PDGF, FGF, EGF, NGF, HGF and Insulin receptor subfamilies. In addition there are a large family of RPTKs for which the corresponding ligand is unknown. Ligands for RPTKs include mainly secreted small proteins, but also membrane-bound and extracellular matrix proteins.

Activation of RPTK by ligands involves ligand-mediated receptor dimerization, resulting in transphosphorylation of the receptor subunits and activation of the cytoplasmic tyrosine kinases. The cytoplasmic tyrosine kinases include receptor associated tyrosine kinases of the src-family (e.g., src, yes, lck, lyn, fyn) and non-receptor linked and cytosolic protein tyrosine kinases, such as the Jak family, members of which mediate signal transduction triggered by the cytokine superfamily of receptors (e.g., the Interleukins, Interferons, GM-CSF, and Leptin).

Because of the wide range of known factors capable of stimulating tyrosine kinase activity, identifying whether polypeptide of the present invention or a molecule induced by polypeptide of the present invention is capable of activating tyrosine

kinase signal transduction pathways is of interest. Therefore, the following protocol is designed to identify such molecules capable of activating the tyrosine kinase signal transduction pathways.

Seed target cells (e.g., primary keratinocytes) at a density of approximately 25,000 cells per well in a 96 well Loprodyne Silent Screen Plates purchased from Nalge Nunc (Naperville, IL). The plates are sterilized with two 30 minute rinses with 100% ethanol, rinsed with water and dried overnight. Some plates are coated for 2 hr with 100 ml of cell culture grade type I collagen (50 mg/ml), gelatin (2%) or polylysine (50 mg/ml), all of which can be purchased from Sigma Chemicals (St. Louis, MO) or 10% Matrigel purchased from Becton Dickinson (Bedford,MA), or calf serum, rinsed with PBS and stored at 4 degree C. Cell growth on these plates is assayed by seeding 5,000 cells/well in growth medium and indirect quantitation of cell number through use of alamarBlue as described by the manufacturer Alamar Biosciences, Inc. (Sacramento, CA) after 48 hr. Falcon plate covers #3071 from Becton Dickinson (Bedford,MA) are used to cover the Loprodyne Silent Screen Plates. Falcon Microtest III cell culture plates can also be used in some proliferation experiments.

To prepare extracts, A431 cells are seeded onto the nylon membranes of Loprodyne plates (20,000/200ml/well) and cultured overnight in complete medium. Cells are quiesced by incubation in serum-free basal medium for 24 hr. After 5-20 minutes treatment with EGF (60ng/ml) or 50 ul of the supernatant produced in Example 31, the medium was removed and 100 ml of extraction buffer ((20 mM HEPES pH 7.5, 0.15 M NaCl, 1% Triton X-100, 0.1% SDS, 2 mM Na3VO4, 2 mM Na4P2O7 and a cocktail of protease inhibitors (# 1836170) obtained from Boeheringer Mannheim (Indianapolis, IN) is added to each well and the plate is shaken on a rotating shaker for 5 minutes at 4°C. The plate is then placed in a vacuum transfer manifold and the extract filtered through the 0.45 mm membrane bottoms of each well using house vacuum. Extracts are collected in a 96-well catch/assay plate in the bottom of the vacuum manifold and immediately placed on ice. To obtain extracts clarified by centrifugation, the content of each well, after

detergent solubilization for 5 minutes, is removed and centrifuged for 15 minutes at 4 degree C at 16,000 x g.

Test the filtered extracts for levels of tyrosine kinase activity. Although many methods of detecting tyrosine kinase activity are known, one method is described here.

Generally, the tyrosine kinase activity of a supernatant is evaluated by determining its ability to phosphorylate a tyrosine residue on a specific substrate (a biotinylated peptide). Biotinylated peptides that can be used for this purpose include PSK1 (corresponding to amino acids 6-20 of the cell division kinase cdc2-p34) and PSK2 (corresponding to amino acids 1-17 of gastrin). Both peptides are substrates for a range of tyrosine kinases and are available from Boehringer Mannheim.

The tyrosine kinase reaction is set up by adding the following components in order. First, add 10ul of 5uM Biotinylated Peptide, then 10ul ATP/Mg_{2+} (5mM ATP/50mM $MgCl_2$), then 10ul of 5x Assay Buffer (40mM imidazole hydrochloride, pH7.3, 40 mM beta-glycerophosphate, 1mM EGTA, 100mM $MgCl_2$, 5 mM $MnCl_2$, 0.5 mg/ml BSA), then 5ul of Sodium Vanadate(1mM), and then 5ul of water. Mix the components gently and preincubate the reaction mix at 30 degree C for 2 min. Initial the reaction by adding 10ul of the control enzyme or the filtered supernatant.

The tyrosine kinase assay reaction is then terminated by adding 10 ul of 120mm EDTA and place the reactions on ice.

Tyrosine kinase activity is determined by transferring 50 ul aliquot of reaction mixture to a microtiter plate (MTP) module and incubating at 37 degree C for 20 min. This allows the streptavadin coated 96 well plate to associate with the biotinylated peptide. Wash the MTP module with 300ul/well of PBS four times. Next add 75 ul of anti-phospotyrosine antibody conjugated to horse radish peroxidase(anti-P-Tyr-POD(0.5u/ml)) to each well and incubate at 37 degree C for one hour. Wash the well as above.

Next add 100ul of peroxidase substrate solution (Boehringer Mannheim) and incubate at room temperature for at least 5 mins (up to 30 min). Measure the absorbance of the sample at 405 nm by using ELISA reader. The level of bound

peroxidase activity is quantitated using an ELISA reader and reflects the level of tyrosine kinase activity.

Example 41: High-Throughput Screening Assay Identifying Phosphorylation Activity

As a potential alternative and/or compliment to the assay of protein tyrosine kinase activity described in Example 40, an assay which detects activation (phosphorylation) of major intracellular signal transduction intermediates can also be used. For example, as described below one particular assay can detect tyrosine phosphorylation of the Erk-1 and Erk-2 kinases. However, phosphorylation of other molecules, such as Raf, JNK, p38 MAP, Map kinase kinase (MEK), MEK kinase, Src, Muscle specific kinase (MuSK), IRAK, Tec, and Janus, as well as any other phosphoserine, phosphotyrosine, or phosphothreonine molecule, can be detected by substituting these molecules for Erk-1 or Erk-2 in the following assay.

Specifically, assay plates are made by coating the wells of a 96-well ELISA plate with 0.1ml of protein G (1ug/ml) for 2 hr at room temp, (RT). The plates are then rinsed with PBS and blocked with 3% BSA/PBS for 1 hr at RT. The protein G plates are then treated with 2 commercial monoclonal antibodies (100ng/well) against Erk-1 and Erk-2 (1 hr at RT) (Santa Cruz Biotechnology). (To detect other molecules, this step can easily be modified by substituting a monoclonal antibody detecting any of the above described molecules.) After 3-5 rinses with PBS, the plates are stored at 4 degree C until use.

A431 cells are seeded at 20,000/well in a 96-well Loprodyne filterplate and cultured overnight in growth medium. The cells are then starved for 48 hr in basal medium (DMEM) and then treated with EGF (6ng/well) or 50 ul of the supernatants obtained in Example 31 for 5-20 minutes. The cells are then solubilized and extracts filtered directly into the assay plate.

After incubation with the extract for 1 hr at RT, the wells are again rinsed. As a positive control, a commercial preparation of MAP kinase (10ng/well) is used in place of A431 extract. Plates are then treated with a commercial polyclonal (rabbit)

antibody (1ug/ml) which specifically recognizes the phosphorylated epitope of the Erk-1 and Erk-2 kinases (1 hr at RT). This antibody is biotinylated by standard procedures. The bound polyclonal antibody is then quantitated by successive incubations with Europium-streptavidin and Europium fluorescence enhancing reagent in the Wallac DELFIA instrument (time-resolved fluorescence). An increased fluorescent signal over background indicates a phosphorylation by polypeptide of the present invention or a molecule induced by polypeptide of the present invention.

Example 42: Assay for the Stimulation of Bone Marrow CD34+ Cell Proliferation

This assay is based on the ability of human CD34+ to proliferate in the presence of hematopoietic growth factors and evaluates the ability of isolated polypeptides expressed in mammalian cells to stimulate proliferation of CD34+ cells.

It has been previously shown that most mature precursors will respond to only a single signal. More immature precursors require at least two signals to respond. Therefore, to test the effect of polypeptides on hematopoietic activity of a wide range of progenitor cells, the assay contains a given polypeptide in the presence or absence of other hematopoietic growth factors. Isolated cells are cultured for 5 days in the presence of Stem Cell Factor (SCF) in combination with tested sample. SCF alone has a very limited effect on the proliferation of bone marrow (BM) cells, acting in such conditions only as a "survival" factor. However, combined with any factor exhibiting stimulatory effect on these cells (e.g., IL-3), SCF will cause a synergistic effect. Therefore, if the tested polypeptide has a stimulatory effect on a hematopoietic progenitors, such activity can be easily detected. Since normal BM cells have a low level of cycling cells, it is likely that any inhibitory effect of a given polypeptide, or agonists or antagonists thereof, might not be detected. Accordingly, assays for an inhibitory effect on progenitors is preferably tested in cells that are first subjected to *in vitro* stimulation with SCF+IL+3, and then contacted with the compound that is being evaluated for inhibition of such induced proliferation.

Briefly, CD34+ cells are isolated using methods known in the art. The cells

are thawed and resuspended in medium (QBSF 60 serum-free medium with 1% L-glutamine (500ml) Quality Biological, Inc., Gaithersburg, MD Cat# 160-204-101). After several gentle centrifugation steps at 200 x g, cells are allowed to rest for one hour. The cell count is adjusted to 2.5 x 10^5 cells/ml. During this time, 100 μl of sterile water is added to the peripheral wells of a 96-well plate. The cytokines that can be tested with a given polypeptide in this assay is rhSCF (R&D Systems, Minneapolis, MN, Cat# 255-SC) at 50 ng/ml alone and in combination with rhSCF and rhIL-3 (R&D Systems, Minneapolis, MN, Cat# 203-ML) at 30 ng/ml. After one hour, 10 μl of prepared cytokines, 50 μl of the supernatants prepared in Example 31 (supernatants at 1:2 dilution = 50 μl) and 20 μl of diluted cells are added to the media which is already present in the wells to allow for a final total volume of 100 μl. The plates are then placed in a 37°C/5% CO_2 incubator for five days.

Eighteen hours before the assay is harvested, 0.5 μCi/well of [3H] Thymidine is added in a 10 μl volume to each well to determine the proliferation rate. The experiment is terminated by harvesting the cells from each 96-well plate to a filtermat using the Tomtec Harvester 96. After harvesting, the filtermats are dried, trimmed and placed into OmniFilter assemblies consisting of one OmniFilter plate and one OmniFilter Tray. 60 μl Microscint is added to each well and the plate sealed with TopSeal-A press-on sealing film A bar code 15 sticker is affixed to the first plate for counting. The sealed plates is then loaded and the level of radioactivity determined via the Packard Top Count and the printed data collected for analysis. The level of radioactivity reflects the amount of cell proliferation.

The studies described in this example test the activity of a given polypeptide to stimulate bone marrow CD34+ cell proliferation. One skilled in the art could easily modify the exemplified studies to test the activity of polynucleotides (e.g., gene therapy), antibodies, agonists, and/or antagonists and fragments and variants thereof. As a nonlimiting example, potential antagonists tested in this assay would be expected to inhibit cell proliferation in the presence of cytokines and/or to increase the inhibition of cell proliferation in the presence of cytokines and a given polypeptide. In contrast, potential agonists tested in this assay would be expected to enhance cell

proliferation and/or to decrease the inhibition of cell proliferation in the presence of cytokines and a given polypeptide.

The ability of a gene to stimulate the proliferation of bone marrow CD34+ cells indicates that polynucleotides and polypeptides corresponding to the gene are useful for the diagnosis and treatment of disorders affecting the immune system and hematopoiesis. Representative uses are described in the "Immune Activity" and "Infectious Disease" sections above, and elsewhere herein.

Example 43: Assay for Extracellular Matrix Enhanced Cell Response (EMECR)

The objective of the Extracellular Matrix Enhanced Cell Response (EMECR) assay is to identify gene products (e.g., isolated polypeptides) that act on the hematopoietic stem cells in the context of the extracellular matrix (ECM) induced signal.

Cells respond to the regulatory factors in the context of signal(s) received from the surrounding microenvironment. For example, fibroblasts, and endothelial and epithelial stem cells fail to replicate in the absence of signals from the ECM. Hematopoietic stem cells can undergo self-renewal in the bone marrow, but not in *in vitro* suspension culture. The ability of stem cells to undergo self-renewal *in vitro* is dependent upon their interaction with the stromal cells and the ECM protein fibronectin (fn). Adhesion of cells to fn is mediated by the $\alpha_5.\beta_1$ and $\alpha_4.\beta_1$ integrin receptors, which are expressed by human and mouse hematopoietic stem cells. The factor(s) which integrate with the ECM environment and responsible for stimulating stem cell self-renewal has not yet been identified. Discovery of such factors should be of great interest in gene therapy and bone marrow transplant applications

Briefly, polystyrene, non tissue culture treated, 96-well plates are coated with fn fragment at a coating concentration of 0.2 $\mu g/cm^2$. Mouse bone marrow cells are plated (1,000 cells/well) in 0.2 ml of serum-free medium. Cells cultured in the presence of IL-3 (5 ng/ml) + SCF (50 ng/ml) would serve as the positive control,

conditions under which little self-renewal but pronounced differentiation of the stem cells is to be expected. Gene products of the invention (e.g., including, but not limited to, polynucleotides and polypeptides of the present invention, and supernatants produced in Example 31), are tested with appropriate negative controls in the presence and absence of SCF(5.0 ng/ml), where test factor supernates represent 10% of the total assay volume. The plated cells are then allowed to grow by incubating in a low oxygen environment (5% CO_2, 7% O_2, and 88% N_2) tissue culture incubator for 7 days. The number of proliferating cells within the wells is then quantitated by measuring thymidine incorporation into cellular DNA. Verification of the positive hits in the assay will require phenotypic characterization of the cells, which can be accomplished by scaling up of the culture system and using appropriate antibody reagents against cell surface antigens and FACScan.

One skilled in the art could easily modify the exemplified studies to test the activity of polynucleotides (e.g., gene therapy), antibodies, agonists, and/or antagonists and fragments and variants thereof.

If a particular polypeptide of the present invention is found to be a stimulator of hematopoietic progenitors, polynucleotides and polypeptides corresponding to the gene encoding said polypeptide may be useful for the diagnosis and treatment of disorders affecting the immune system and hematopoiesis. Representative uses are described in the "Immune Activity" and "Infectious Disease" sections above, and elsewhere herein. The gene product may also be useful in the expansion of stem cells and committed progenitors of various blood lineages, and in the differentiation and/or proliferation of various cell types.

Additionally, the polynucleotides and/or polypeptides of the gene of interest and/or agonists and/or antagonists thereof, may also be employed to inhibit the proliferation and differentiation of hematopoietic cells and therefore may be employed to protect bone marrow stem cells from chemotherapeutic agents during chemotherapy. This antiproliferative effect may allow administration of higher doses of chemotherapeutic agents and, therefore, more effective chemotherapeutic treatment.

Moreover, polynucleotides and polypeptides corresponding to the gene of interest may also be useful for the treatment and diagnosis of hematopoietic related disorders such as, for example, anemia, pancytopenia, leukopenia, thrombocytopenia or leukemia since stromal cells are important in the production of cells of hematopoietic lineages. The uses include bone marrow cell ex-vivo culture, bone marrow transplantation, bone marrow reconstitution, radiotherapy or chemotherapy of neoplasia.

Example 44: Human Dermal Fibroblast and Aortic Smooth Muscle Cell Proliferation

The polypeptide of interest is added to cultures of normal human dermal fibroblasts (NHDF) and human aortic smooth muscle cells (AoSMC) and two co-assays are performed with each sample. The first assay examines the effect of the polypeptide of interest on the proliferation of normal human dermal fibroblasts (NHDF) or aortic smooth muscle cells (AoSMC). Aberrant growth of fibroblasts or smooth muscle cells is a part of several pathological processes, including fibrosis, and restenosis. The second assay examines IL6 production by both NHDF and SMC. IL6 production is an indication of functional activation. Activated cells will have increased production of a number of cytokines and other factors, which can result in a proinflammatory or immunomodulatory outcome. Assays are run with and without co-TNFa stimulation, in order to check for costimulatory or inhibitory activity.

Briefly, on day 1, 96-well black plates are set up with 1000 cells/well (NHDF) or 2000 cells/well (AoSMC) in 100 μl culture media. NHDF culture media contains: Clonetics FB basal media, 1mg/ml hFGF, 5mg/ml insulin, 50mg/ml gentamycin, 2%FBS, while AoSMC culture media contains Clonetics SM basal media, 0.5 μg/ml hEGF, 5mg/ml insulin, 1μg/ml hFGF, 50mg/ml gentamycin, 50 μg/ml Amphotericin B, 5%FBS. After incubation at 37°C for at least 4-5 hours, culture media is aspirated and replaced with growth arrest media. Growth arrest media for NHDF contains fibroblast basal media, 50mg/ml gentamycin, 2% FBS, while growth arrest media for AoSMC contains SM basal media, 50mg/ml gentamycin, 50μg/ml Amphotericin B,

0.4% FBS. Incubate at 37°C until day 2.

On day 2, serial dilutions and templates of the polypeptide of interest are designed such that they always include media controls and known-protein controls. For both stimulation and inhibition experiments, proteins are diluted in growth arrest media. For inhibition experiments, TNFa is added to a final concentration of 2ng/ml (NHDF) or 5ng/ml (AoSMC). Add 1/3 vol media containing controls or polypeptides of the present invention and incubate at 37°C/5% CO_2 until day 5.

Transfer 60µl from each well to another labeled 96-well plate, cover with a plate-sealer, and store at 4°C until Day 6 (for IL6 ELISA). To the remaining 100 µl in the cell culture plate, aseptically add Alamar Blue in an amount equal to 10% of the culture volume (10µl). Return plates to incubator for 3 to 4 hours. Then measure fluorescence with excitation at 530nm and emission at 590nm using the CytoFluor. This yields the growth stimulation/inhibition data.

On day 5, the IL6 ELISA is performed by coating a 96 well plate with 50-100 ul/well of Anti-Human IL6 Monoclonal antibody diluted in PBS, pH 7.4, incubate ON at room temperature.

On day 6, empty the plates into the sink and blot on paper towels. Prepare Assay Buffer containing PBS with 4% BSA. Block the plates with 200 µl/well of Pierce Super Block blocking buffer in PBS for 1-2 hr and then wash plates with wash buffer (PBS, 0.05% Tween-20). Blot plates on paper towels. Then add 50 µl/well of diluted Anti-Human IL-6 Monoclonal, Biotin-labeled antibody at 0.50 mg/ml. Make dilutions of IL-6 stock in media (30, 10, 3, 1, 0.3, 0 ng/ml). Add duplicate samples to top row of plate. Cover the plates and incubate for 2 hours at RT on shaker. Plates are washed with wash buffer and blotted on paper towels. Dilute EU-labeled Streptavidin 1:1000 in Assay buffer, and add 100 µl/well. Cover the plate and incubate 1 h at RT. Plates are again washed with wash buffer and blotted on paper towels. Add 100 µl/well of Enhancement Solution and shake for 5 minutes. Read the plate on the Wallac DELFIA Fluorometer. Readings from triplicate samples in each assay are tabulated and averaged.

A positive result in this assay suggests AoSMC cell proliferation and that the

polypeptide of the present invention may be involved in dermal fibroblast proliferation and/or smooth muscle cell proliferation. A positive result also suggests many potential uses of polypeptides, polynucleotides, agonists and/or antagonists of the polynucleotide/polypeptide of the present invention which gives a positive result. For example, inflammation and immune responses, wound healing, and angiogenesis, as detailed throughout this specification. Particularly, polypeptides of the present invention and polynucleotides of the present invention may be used in wound healing and dermal regeneration, as well as the promotion of vasculargenesis, both of the blood vessels and lymphatics. The growth of vessels can be used in the treatment of, for example, cardiovascular diseases. Additionally, antagonists of polypeptides and polynucleotides of the invention may be useful in treating diseases, disorders, and/or conditions which involve angiogenesis by acting as an anti-vascular (e.g., anti-angiogenesis). These diseases, disorders, and/or conditions are known in the art and/or are described herein, such as, for example, malignancies, solid tumors, benign tumors, for example hemangiomas, acoustic neuromas, neurofibromas, trachomas, and pyogenic granulomas; artheroscleric plaques; ocular angiogenic diseases, for example, diabetic retinopathy, retinopathy of prematurity, macular degeneration, corneal graft rejection, neovascular glaucoma, retrolental fibroplasia, rubeosis, retinoblastoma, uvietis and Pterygia (abnormal blood vessel growth) of the eye; rheumatoid arthritis; psoriasis; delayed wound healing; endometriosis; vasculogenesis; granulations; hypertrophic scars (keloids); nonunion fractures; scleroderma; trachoma; vascular adhesions; myocardial angiogenesis; coronary collaterals; cerebral collaterals; arteriovenous malformations; ischemic limb angiogenesis; Osler-Webber Syndrome; plaque neovascularization; telangiectasia; hemophiliac joints; angiofibroma; fibromuscular dysplasia; wound granulation; Crohn's disease; and atherosclerosis. Moreover, antagonists of polypeptides and polynucleotides of the invention may be useful in treating anti-hyperproliferative diseases and/or anti-inflammatory known in the art and/or described herein.

One skilled in the art could easily modify the exemplified studies to test the activity of polynucleotides (e.g., gene therapy), antibodies, agonists, and/or

antagonists and fragments and variants thereof.

Example 45: Cellular Adhesion Molecule (CAM) Expression on Endothelial Cells

The recruitment of lymphocytes to areas of inflammation and angiogenesis involves specific receptor-ligand interactions between cell surface adhesion molecules (CAMs) on lymphocytes and the vascular endothelium. The adhesion process, in both normal and pathological settings, follows a multi-step cascade that involves intercellular adhesion molecule-1 (ICAM-1), vascular cell adhesion molecule-1 (VCAM-1), and endothelial leukocyte adhesion molecule-1 (E-selectin) expression on endothelial cells (EC). The expression of these molecules and others on the vascular endothelium determines the efficiency with which leukocytes may adhere to the local vasculature and extravasate into the local tissue during the development of an inflammatory response. The local concentration of cytokines and growth factor participate in the modulation of the expression of these CAMs.

Briefly, endothelial cells (e.g., Human Umbilical Vein Endothelial cells (HUVECs)) are grown in a standard 96 well plate to confluence, growth medium is removed from the cells and replaced with 100 µl of 199 Medium (10% fetal bovine serum (FBS)). Samples for testing and positive or negative controls are added to the plate in triplicate (in 10 µl volumes). Plates are then incubated at 37°C for either 5 h (selectin and integrin expression) or 24 h (integrin expression only). Plates are aspirated to remove medium and 100 µl of 0.1% paraformaldehyde-PBS(with Ca++ and Mg++) is added to each well. Plates are held at 4°C for 30 min. Fixative is removed from the wells and wells are washed 1X with PBS(+Ca,Mg) + 0.5% BSA and drained. 10 µl of diluted primary antibody is added to the test and control wells. Anti-ICAM-1-Biotin, Anti-VCAM-1-Biotin and Anti-E-selectin-Biotin are used at a concentration of 10 µg/ml (1:10 dilution of 0.1 mg/ml stock antibody). Cells are incubated at 37°C for 30 min. in a humidified environment. Wells are washed three times with PBS(+Ca,Mg) + 0.5% BSA. 20 µl of diluted ExtrAvidin-Alkaline

Phosphotase (1:5,000 dilution, refered to herein as the working dilution) are added to each well and incubated at 37°C for 30 min. Wells are washed three times with PBS(+Ca,Mg)+0.5% BSA. Dissolve 1 tablet of p-Nitrophenol Phosphate pNPP per 5 ml of glycine buffer (pH 10.4). 100 µl of pNPP substrate in glycine buffer is added to each test well. Standard wells in triplicate are prepared from the working dilution of the ExtrAvidin-Alkaline Phosphotase in glycine buffer: 1:5,000 (10^0) > $10^{-0.5}$ > 10^{-1} > $10^{-1.5}$. 5 µl of each dilution is added to triplicate wells and the resulting AP content in each well is 5.50 ng, 1.74 ng, 0.55 ng, 0.18 ng. 100 µl of pNNP reagent is then added to each of the standard wells. The plate is incubated at 37°C for 4h. A volume of 50 µl of 3M NaOH is added to all wells. The plate is read on a plate reader at 405 nm using the background subtraction option on blank wells filled with glycine buffer only. Additionally, the template is set up to indicate the concentration of AP-conjugate in each standard well [5.50 ng; 1.74 ng; 0.55 ng; 0.18 ng]. Results are indicated as amount of bound AP-conjugate in each sample.

Example 46: Alamar Blue Endothelial Cells Proliferation Assay

This assay may be used to quantitatively determine protein mediated inhibition of bFGF-induced proliferation of Bovine Lymphatic Endothelial Cells (LECs), Bovine Aortic Endothelial Cells (BAECs) or Human Microvascular Uterine Myometrial Cells (UTMECs). This assay incorporates a fluorometric growth indicator based on detection of metabolic activity. A standard Alamar Blue Proliferation Assay is prepared in EGM-2MV with 10 ng /ml of bFGF added as a source of endothelial cell stimulation. This assay may be used with a variety of endothelial cells with slight changes in growth medium and cell concentration. Dilutions of the protein batches to be tested are diluted as appropriate. Serum-free medium (GIBCO SFM) without bFGF is used as a non-stimulated control and Angiostatin or TSP-1 are included as a known inhibitory controls.

Briefly, LEC, BAECs or UTMECs are seeded in growth media at a density of 5000 to 2000 cells/well in a 96 well plate and placed at 37-C overnight. After the

overnight incubation of the cells, the growth media is removed and replaced with GIBCO EC-SFM. The cells are treated with the appropriate dilutions of the protein of interest or control protein sample(s) (prepared in SFM) in triplicate wells with additional bFGF to a concentration of 10 ng/ ml. Once the cells have been treated with the samples, the plate(s) is/are placed back in the 37° C incubator for three days. After three days 10 ml of stock alamar blue (Biosource Cat# DAL1100) is added to each well and the plate(s) is/are placed back in the 37°C incubator for four hours. The plate(s) are then read at 530nm excitation and 590nm emission using the CytoFluor fluorescence reader. Direct output is recorded in relative fluorescence units.

Alamar blue is an oxidation-reduction indicator that both fluoresces and changes color in response to chemical reduction of growth medium resulting from cell growth. As cells grow in culture, innate metabolic activity results in a chemical reduction of the immediate surrounding environment. Reduction related to growth causes the indicator to change from oxidized (non-fluorescent blue) form to reduced (fluorescent red) form. i.e. stimulated proliferation will produce a stronger signal and inhibited proliferation will produce a weaker signal and the total signal is proportional to the total number of cells as well as their metabolic activity. The background level of activity is observed with the starvation medium alone. This is compared to the output observed from the positive control samples (bFGF in growth medium) and protein dilutions.

Example 47: Detection of Inhibition of a Mixed Lymphocyte Reaction

This assay can be used to detect and evaluate inhibition of a Mixed Lymphocyte Reaction (MLR) by gene products (e.g., isolated polypeptides). Inhibition of a MLR may be due to a direct effect on cell proliferation and viability, modulation of costimulatory molecules on interacting cells, modulation of adhesiveness between lymphocytes and accessory cells, or modulation of cytokine production by accessory cells. Multiple cells may be targeted by these polypeptides

since the peripheral blood mononuclear fraction used in this assay includes T, B and natural killer lymphocytes, as well as monocytes and dendritic cells.

Polypeptides of interest found to inhibit the MLR may find application in diseases associated with lymphocyte and monocyte activation or proliferation. These include, but are not limited to, diseases such as asthma, arthritis, diabetes, inflammatory skin conditions, psoriasis, eczema, systemic lupus erythematosus, multiple sclerosis, glomerulonephritis, inflammatory bowel disease, crohn's disease, ulcerative colitis, arteriosclerosis, cirrhosis, graft vs. host disease, host vs. graft disease, hepatitis, leukemia and lymphoma.

Briefly, PBMCs from human donors are purified by density gradient centrifugation using Lymphocyte Separation Medium (LSM®, density 1.0770 g/ml, Organon Teknika Corporation, West Chester, PA). PBMCs from two donors are adjusted to 2 x 10^6 cells/ml in RPMI-1640 (Life Technologies, Grand Island, NY) supplemented with 10% FCS and 2 mM glutamine. PBMCs from a third donor is adjusted to 2 x 10^5 cells/ml. Fifty microliters of PBMCs from each donor is added to wells of a 96-well round bottom microtiter plate. Dilutions of test materials (50 μl) is added in triplicate to microtiter wells. Test samples (of the protein of interest) are added for final dilution of 1:4; rhulL-2 (R&D Systems, Minneapolis, MN, catalog number 202-IL) is added to a final concentration of 1 μg/ml; anti-CD4 mAb (R&D Systems, clone 34930.11, catalog number MAB379) is added to a final concentration of 10 μg/ml. Cells are cultured for 7-8 days at 37°C in 5% CO_2, and 1 μC of [^{3}H] thymidine is added to wells for the last 16 hrs of culture. Cells are harvested and thymidine incorporation determined using a Packard TopCount. Data is expressed as the mean and standard deviation of triplicate determinations.

Samples of the protein of interest are screened in separate experiments and compared to the negative control treatment, anti-CD4 mAb, which inhibits proliferation of lymphocytes and the positive control treatment, IL-2 (either as recombinant material or supernatant), which enhances proliferation of lymphocytes.

One skilled in the art could easily modify the exemplified studies to test the activity of polynucleotides (e.g., gene therapy), antibodies, agonists, and/or

antagonists and fragments and variants thereof.

It will be clear that the invention may be practiced otherwise than as particularly described in the foregoing description and examples. Numerous modifications and variations of the present invention are possible in light of the above teachings and, therefore, are within the scope of the appended claims.

The entire disclosure of each document cited (including patents, patent applications, journal articles, abstracts, laboratory manuals, books, or other disclosures) in the Background of the Invention, Detailed Description, and Examples is hereby incorporated herein by reference. Further, the hard copy of the sequence listing submitted herewith and the corresponding computer readable form are both incorporated herein by reference in their entireties. Moreover, the hard copy of and the corresponding computer readable form of the Sequence Listing of Serial No. 60/124,270 are also incorporated herein by reference in their entireties.

Applicant's or agent's file reference number	PA106PCT	International application	UNASSIGNED

INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

(PCT Rule 13*bis*)

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Address of depositary institution *(including postal code and country)*
10801 University Boulevard
Manassas, Virginia 20110-2209
United States of America

Date of deposit	Accession Number
20 May 1997	209059

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CANADA

The applicant requests that, until either a Canadian patent has been issued on the basis of an application or the application has been refused, or is abandoned and no longer subject to reinstatement, or is withdrawn, the Commissioner of Patents only authorizes the furnishing of a sample of the deposited biological material referred to in the application to an independent expert nominated by the Commissioner, the applicant must, by a written statement, inform the International Bureau accordingly before completion of technical preparations for publication of the international application.

NORWAY

The applicant hereby requests that the application has been laid open to public inspection (by the Norwegian Patent Office), or has been finally decided upon by the Norwegian Patent Office without having been laid open inspection, the furnishing of a sample shall only be effected to an expert in the art. The request to this effect shall be filed by the applicant with the Norwegian Patent Office not later than at the time when the application is made available to the public under Sections 22 and 33(3) of the Norwegian Patents Act. If such a request has been filed by the applicant, any request made by a third party for the furnishing of a sample shall indicate the expert to be used. That expert may be any person entered on the list of recognized experts drawn up by the Norwegian Patent Office or any person approved by the applicant in the individual case.

AUSTRALIA

The applicant hereby gives notice that the furnishing of a sample of a microorganism shall only be effected prior to the grant of a patent, or prior to the lapsing, refusal or withdrawal of the application, to a person who is a skilled addressee without an interest in the invention (Regulation 3.25(3) of the Australian Patents Regulations).

FINLAND

The applicant hereby requests that, until the application has been laid open to public inspection (by the National Board of Patents and Regulations), or has been finally decided upon by the National Board of Patents and Registration without having been laid open to public inspection, the furnishing of a sample shall only be effected to an expert in the art.

UNITED KINGDOM

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Page 2
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DENMARK

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SWEDEN

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NETHERLANDS

The applicant hereby requests that until the date of a grant of a Netherlands patent or until the date on which the application is refused or withdrawn or lapsed, the microorganism shall be made available as provided in the 31F(1) of the Patent Rules only by the issue of a sample to an expert. The request to this effect must be furnished by the applicant with the Netherlands Industrial Property Office before the date on which the application is made available to the public under Section 22C or Section 25 of the Patents Act of the Kingdom of the Netherlands, whichever of the two dates occurs earlier.

Applicant's or agent's file reference number	PA106PCT	International application No.	UNASSIGNED

INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

(PCT Rule 13*bis*)

A. The indications made below relate to the microorganism referred to in the description on page 121, line N/A.

B. IDENTIFICATION OF DEPOSIT Further deposits are identified on an additional sheet ☐

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Address of depositary institution *(including postal code and country)*
10801 University Boulevard
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United States of America

Date of deposit	Accession Number
20 May 1997	209060

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CANADA

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NORWAY

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FINLAND

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UNITED KINGDOM

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Page 2
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DENMARK

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Applicant's or agent's file reference number	PA106PCT	International application No	UNASSIGNED

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B. IDENTIFICATION OF DEPOSIT Further deposits are identified on an additional sheet ☐

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Page 2
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Applicant's or agent's file reference number	PA106PCT	International application	UNASSIGNED

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20 May 1997	209062

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ATCC Deposit No. 209062

CANADA

The applicant requests that, until either a Canadian patent has been issued on the basis of an application or the application has been refused, or is abandoned and no longer subject to reinstatement, or is withdrawn, the Commissioner of Patents only authorizes the furnishing of a sample of the deposited biological material referred to in the application to an independent expert nominated by the Commissioner, the applicant must, by a written statement, inform the International Bureau accordingly before completion of technical preparations for publication of the international application.

NORWAY

The applicant hereby requests that the application has been laid open to public inspection (by the Norwegian Patent Office), or has been finally decided upon by the Norwegian Patent Office without having been laid open inspection, the furnishing of a sample shall only be effected to an expert in the art. The request to this effect shall be filed by the applicant with the Norwegian Patent Office not later than at the time when the application is made available to the public under Sections 22 and 33(3) of the Norwegian Patents Act. If such a request has been filed by the applicant, any request made by a third party for the furnishing of a sample shall indicate the expert to be used. That expert may be any person entered on the list of recognized experts drawn up by the Norwegian Patent Office or any person approved by the applicant in the individual case.

AUSTRALIA

The applicant hereby gives notice that the furnishing of a sample of a microorganism shall only be effected prior to the grant of a patent, or prior to the lapsing, refusal or withdrawal of the application, to a person who is a skilled addressee without an interest in the invention (Regulation 3.25(3) of the Australian Patents Regulations).

FINLAND

The applicant hereby requests that, until the application has been laid open to public inspection (by the National Board of Patents and Regulations), or has been finally decided upon by the National Board of Patents and Registration without having been laid open to public inspection, the furnishing of a sample shall only be effected to an expert in the art.

UNITED KINGDOM

The applicant hereby requests that the furnishing of a sample of a microorganism shall only be made available to an expert. The request to this effect must be filed by the applicant with the International Bureau before the completion of the technical preparations for the international publication of the application.

Page 2
ATCC Deposit No. 209062

DENMARK

The applicant hereby requests that, until the application has been laid open to public inspection (by the Danish Patent Office), or has been finally decided upon by the Danish Patent office without having been laid open to public inspection, the furnishing of a sample shall only be effected to an expert in the art. The request to this effect shall be filed by the applicant with the Danish Patent Office not later that at the time when the application is made available to the public under Sections 22 and 33(3) of the Danish Patents Act. If such a request has been filed by the applicant, any request made by a third party for the furnishing of a sample shall indicate the expert to be used. That expert may be any person entered on a list of recognized experts drawn up by the Danish Patent Office or any person by the applicant in the individual case.

SWEDEN

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NETHERLANDS

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Applicant's or agent's file reference number	PA106PCT	International application No.	UNASSIGNED

INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

(PCT Rule 13*bis*)

A. The indications made below relate to the microorganism referred to in the description on page 121, line N/A.

B. IDENTIFICATION OF DEPOSIT — Further deposits are identified on an additional sheet ☐

Name of depositary institution American Type Culture Collection

Address of depositary institution *(including postal code and country)*
10801 University Boulevard
Manassas, Virginia 20110-2209
United States of America

Date of deposit	Accession Number
20 May 1997	209063

C. ADDITIONAL INDICATIONS *(leave blank if not applicable)* — This information is continued on an additional sheet ☐

D. DESIGNATED STATES FOR WHICH INDICATIONS ARE MADE *(if the indications are not for all designated States)*

Europe
In respect to those designations in which a European Patent is sought a sample of the deposited microorganism will be made available until the publication of the mention of the grant of the European patent or until the date on which application has been refused or withdrawn or is deemed to be withdrawn, only by the issue of such a sample to an expert nominated by the person requesting the sample (Rule 28 (4) EPC).

E. SEPARATE FURNISHING OF INDICATIONS *(leave blank if not applicable)*

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ATCC Deposit No. 209063

CANADA

The applicant requests that, until either a Canadian patent has been issued on the basis of an application or the application has been refused, or is abandoned and no longer subject to reinstatement, or is withdrawn, the Commissioner of Patents only authorizes the furnishing of a sample of the deposited biological material referred to in the application to an independent expert nominated by the Commissioner, the applicant must, by a written statement, inform the International Bureau accordingly before completion of technical preparations for publication of the international application.

NORWAY

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FINLAND

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UNITED KINGDOM

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Page 2
ATCC Deposit No. 209063

DENMARK

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SWEDEN

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NETHERLANDS

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Applicant's or agent's file reference number	PA106PCT	International application	UNASSIGNED

INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

(PCT Rule 13*bis*)

A. The indications made below relate to the microorganism referred to in the description on page 121, line N/A.

B. IDENTIFICATION OF DEPOSIT — Further deposits are identified on an additional sheet ☐

Name of depositary institution American Type Culture Collection

Address of depositary institution *(including postal code and country)*
10801 University Boulevard
Manassas, Virginia 20110-2209
United States of America

Date of deposit	Accession Number
20 May 1997	209064

C. ADDITIONAL INDICATIONS *(leave blank if not applicable)* — This information is continued on an additional sheet ☐

D. DESIGNATED STATES FOR WHICH INDICATIONS ARE MADE *(if the indications are not for all designated States)*

Europe
In respect to those designations in which a European Patent is sought a sample of the deposited microorganism will be made available until the publication of the mention of the grant of the European patent or until the date on which application has been refused or withdrawn or is deemed to be withdrawn, only by the issue of such a sample to an expert nominated by the person requesting the sample (Rule 28 (4) EPC).

E. SEPARATE FURNISHING OF INDICATIONS *(leave blank if not applicable)*

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ATCC Deposit No. 209064

CANADA

The applicant requests that, until either a Canadian patent has been issued on the basis of an application or the application has been refused, or is abandoned and no longer subject to reinstatement, or is withdrawn, the Commissioner of Patents only authorizes the furnishing of a sample of the deposited biological material referred to in the application to an independent expert nominated by the Commissioner, the applicant must, by a written statement, inform the International Bureau accordingly before completion of technical preparations for publication of the international application.

NORWAY

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AUSTRALIA

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FINLAND

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UNITED KINGDOM

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Page 2
ATCC Deposit No. 209064

DENMARK

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SWEDEN

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NETHERLANDS

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557

Applicant's or agent's file reference number	PA106PCT	International application	UNASSIGNED

INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

(PCT Rule 13*bis*)

A. The indications made below relate to the microorganism referred to in the description on page 121, line N/A.

B. IDENTIFICATION OF DEPOSIT Further deposits are identified on an additional sheet ☐

Name of depositary institution American Type Culture Collection

Address of depositary institution *(including postal code and country)*
10801 University Boulevard
Manassas, Virginia 20110-2209
United States of America

Date of deposit	Accession Number
20 May 1997	209065

C. ADDITIONAL INDICATIONS *(leave blank if not applicable)* This information is continued on an additional sheet ☐

D. DESIGNATED STATES FOR WHICH INDICATIONS ARE MADE *(if the indications are not for all designated States)*

Europe
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E. SEPARATE FURNISHING OF INDICATIONS *(leave blank if not applicable)*

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ATCC Deposit No. 209065

CANADA

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NORWAY

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AUSTRALIA

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FINLAND

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UNITED KINGDOM

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Page 2
ATCC Deposit No. 209065

DENMARK

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SWEDEN

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NETHERLANDS

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Applicant's or agent's file reference number	PA106PCT	International application	UNASSIGNED

INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

(PCT Rule 13*bis*)

A. The indications made below relate to the microorganism referred to in the description on page 121, line N/A.

B. IDENTIFICATION OF DEPOSIT — Further deposits are identified on an additional sheet ☐

Name of depositary institution American Type Culture Collection

Address of depositary institution *(including postal code and country)*
10801 University Boulevard
Manassas, Virginia 20110-2209
United States of America

Date of deposit	Accession Number
20 May 1997	209066

C. ADDITIONAL INDICATIONS *(leave blank if not applicable)* — This information is continued on an additional sheet ☐

D. DESIGNATED STATES FOR WHICH INDICATIONS ARE MADE *(if the indications are not for all designated States)*

Europe
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ATCC Deposit No. 209066

CANADA

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FINLAND

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UNITED KINGDOM

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Page 2
ATCC Deposit No. 209066

DENMARK

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Applicant's or agent's file reference number	PA106PCT	International application No.	UNASSIGNED

INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

(PCT Rule 13*bis*)

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Name of depositary institution American Type Culture Collection

Address of depositary institution *(including postal code and country)*
10801 University Boulevard
Manassas, Virginia 20110-2209
United States of America

Date of deposit	Accession Number
20 May 1997	209067

C. ADDITIONAL INDICATIONS *(leave blank if not applicable)* — This information is continued on an additional sheet ☐

D. DESIGNATED STATES FOR WHICH INDICATIONS ARE MADE *(if the indications are not for all designated States)*

Europe
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ATCC Deposit No. 209067

CANADA

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UNITED KINGDOM

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Page 2
ATCC Deposit No. 209067

DENMARK

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NETHERLANDS

The applicant hereby requests that until the date of a grant of a Netherlands patent or until the date on which the application is refused or withdrawn or lapsed, the microorganism shall be made available as provided in the 31F(1) of the Patent Rules only by the issue of a sample to an expert. The request to this effect must be furnished by the applicant with the Netherlands Industrial Property Office before the date on which the application is made available to the public under Section 22C or Section 25 of the Patents Act of the Kingdom of the Netherlands, whichever of the two dates occurs earlier.

Applicant's or agent's file reference number	PA106PCT	International application No.	UNASSIGNED

INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

(PCT Rule 13*bis*)

A. The indications made below relate to the microorganism referred to in the description on page 121, line N/A.

B. IDENTIFICATION OF DEPOSIT — Further deposits are identified on an additional sheet ☐

Name of depositary institution American Type Culture Collection

Address of depositary institution *(including postal code and country)*
10801 University Boulevard
Manassas, Virginia 20110-2209
United States of America

Date of deposit	Accession Number
20 May 1997	209068

C. ADDITIONAL INDICATIONS *(leave blank if not applicable)* — This information is continued on an additional sheet ☐

D. DESIGNATED STATES FOR WHICH INDICATIONS ARE MADE *(if the indications are not for all designated States)*

Europe
In respect to those designations in which a European Patent is sought a sample of the deposited microorganism will be made available until the publication of the mention of the grant of the European patent or until the date on which application has been refused or withdrawn or is deemed to be withdrawn, only by the issue of such a sample to an expert nominated by the person requesting the sample (Rule 28 (4) EPC).

E. SEPARATE FURNISHING OF INDICATIONS *(leave blank if not applicable)*

The indications listed below will be submitted to the International Bureau later *(specify the general nature of the indications e.g., "Accession Number of Deposit")*

For receiving Office use only	For International Bureau use only
☑ This sheet was received with the international application	☐ This sheet was received by the International Bureau on:
Authorized officer [illegible] PCT/International Appl Processing Div. (703) [illegible]	Authorized officer

Form PCT/RO/134 (July 1992)

ATCC Deposit No. 209068

CANADA

The applicant requests that, until either a Canadian patent has been issued on the basis of an application or the application has been refused, or is abandoned and no longer subject to reinstatement, or is withdrawn, the Commissioner of Patents only authorizes the furnishing of a sample of the deposited biological material referred to in the application to an independent expert nominated by the Commissioner, the applicant must, by a written statement, inform the International Bureau accordingly before completion of technical preparations for publication of the international application.

NORWAY

The applicant hereby requests that the application has been laid open to public inspection (by the Norwegian Patent Office), or has been finally decided upon by the Norwegian Patent Office without having been laid open inspection, the furnishing of a sample shall only be effected to an expert in the art. The request to this effect shall be filed by the applicant with the Norwegian Patent Office not later than at the time when the application is made available to the public under Sections 22 and 33(3) of the Norwegian Patents Act. If such a request has been filed by the applicant, any request made by a third party for the furnishing of a sample shall indicate the expert to be used. That expert may be any person entered on the list of recognized experts drawn up by the Norwegian Patent Office or any person approved by the applicant in the individual case.

AUSTRALIA

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FINLAND

The applicant hereby requests that, until the application has been laid open to public inspection (by the National Board of Patents and Regulations), or has been finally decided upon by the National Board of Patents and Registration without having been laid open to public inspection, the furnishing of a sample shall only be effected to an expert in the art.

UNITED KINGDOM

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Page 2
ATCC Deposit No. 209068

DENMARK

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SWEDEN

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NETHERLANDS

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Applicant's or agent's file reference number	PA106PCT	International application No.	UNASSIGNED

INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

(PCT Rule 13*bis*)

A. The indications made below relate to the microorganism referred to in the description on page 121, line N/A.

B. IDENTIFICATION OF DEPOSIT — Further deposits are identified on an additional sheet ☐

Name of depositary institution: American Type Culture Collection

Address of depositary institution *(including postal code and country)*
10801 University Boulevard
Manassas, Virginia 20110-2209
United States of America

Date of deposit	Accession Number
20 May 1997	209069

C. ADDITIONAL INDICATIONS *(leave blank if not applicable)* — This information is continued on an additional sheet ☐

D. DESIGNATED STATES FOR WHICH INDICATIONS ARE MADE *(if the indications are not for all designated States)*

Europe
In respect to those designations in which a European Patent is sought a sample of the deposited microorganism will be made available until the publication of the mention of the grant of the European patent or until the date on which application has been refused or withdrawn or is deemed to be withdrawn, only by the issue of such a sample to an expert nominated by the person requesting the sample (Rule 28 (4) EPC).

E. SEPARATE FURNISHING OF INDICATIONS *(leave blank if not applicable)*

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Authorized officer Jerri McDowell PCT/Internat'l Appl Processing Div. (703) 305-3639	Authorized officer

ATCC Deposit No. 209069

CANADA

The applicant requests that, until either a Canadian patent has been issued on the basis of an application or the application has been refused, or is abandoned and no longer subject to reinstatement, or is withdrawn, the Commissioner of Patents only authorizes the furnishing of a sample of the deposited biological material referred to in the application to an independent expert nominated by the Commissioner, the applicant must, by a written statement, inform the International Bureau accordingly before completion of technical preparations for publication of the international application.

NORWAY

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AUSTRALIA

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FINLAND

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UNITED KINGDOM

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Page 2
ATCC Deposit No. 209069

DENMARK

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SWEDEN

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NETHERLANDS

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Applicant's or agent's file reference number	PA106PCT	International application	UNASSIGNED

INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

(PCT Rule 13*bis*)

A. The indications made below relate to the microorganism referred to in the description on page 121, line N/A.

B. IDENTIFICATION OF DEPOSIT — Further deposits are identified on an additional sheet ☐

Name of depositary institution American Type Culture Collection

Address of depositary institution *(including postal code and country)*
10801 University Boulevard
Manassas, Virginia 20110-2209
United States of America

Date of deposit	Accession Number
12 January 1998	209579

C. ADDITIONAL INDICATIONS *(leave blank if not applicable)* — This information is continued on an additional sheet ☐

D. DESIGNATED STATES FOR WHICH INDICATIONS ARE MADE *(if the indications are not for all designated States)*

Europe
In respect to those designations in which a European Patent is sought a sample of the deposited microorganism will be made available until the publication of the mention of the grant of the European patent or until the date on which application has been refused or withdrawn or is deemed to be withdrawn, only by the issue of such a sample to an expert nominated by the person requesting the sample (Rule 28 (4) EPC).

E. SEPARATE FURNISHING OF INDICATIONS *(leave blank if not applicable)*

The indications listed below will be submitted to the International Bureau later *(specify the general nature of the indications e.g., "Accession Number of Deposit")*

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Authorized officer Joel McDowell PCT/Internat'l Appl Processing Div. (703) 305-3639	Authorized officer

ATCC Deposit No. 209579

CANADA

The applicant requests that, until either a Canadian patent has been issued on the basis of an application or the application has been refused, or is abandoned and no longer subject to reinstatement, or is withdrawn, the Commissioner of Patents only authorizes the furnishing of a sample of the deposited biological material referred to in the application to an independent expert nominated by the Commissioner, the applicant must, by a written statement, inform the International Bureau accordingly before completion of technical preparations for publication of the international application.

NORWAY

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AUSTRALIA

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FINLAND

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UNITED KINGDOM

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Page 2
ATCC Deposit No. 209579

DENMARK

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SWEDEN

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NETHERLANDS

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Applicant's or agent's file reference number	PA106PCT	International application	UNASSIGNED

INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

(PCT Rule 13*bis*)

A. The indications made below relate to the microorganism referred to in the description on page 121, line N/A.

B. IDENTIFICATION OF DEPOSIT — Further deposits are identified on an additional sheet ☐

Name of depositary institution American Type Culture Collection

Address of depositary institution *(including postal code and country)*
10801 University Boulevard
Manassas, Virginia 20110-2209
United States of America

Date of deposit	Accession Number
12 January 1998	209578

C. ADDITIONAL INDICATIONS *(leave blank if not applicable)* — This information is continued on an additional sheet ☐

D. DESIGNATED STATES FOR WHICH INDICATIONS ARE MADE *(if the indications are not for all designated States)*

Europe
In respect to those designations in which a European Patent is sought a sample of the deposited microorganism will be made available until the publication of the mention of the grant of the European patent or until the date on which application has been refused or withdrawn or is deemed to be withdrawn, only by the issue of such a sample to an expert nominated by the person requesting the sample (Rule 28 (4) EPC).

E. SEPARATE FURNISHING OF INDICATIONS *(leave blank if not applicable)*

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Authorized officer Jerry McDowell PCT/Internat'l Appl Processing Div. (703) 305-3XXX	Authorized officer

ATCC Deposit No. 209578

CANADA

The applicant requests that, until either a Canadian patent has been issued on the basis of an application or the application has been refused, or is abandoned and no longer subject to reinstatement, or is withdrawn, the Commissioner of Patents only authorizes the furnishing of a sample of the deposited biological material referred to in the application to an independent expert nominated by the Commissioner, the applicant must, by a written statement, inform the International Bureau accordingly before completion of technical preparations for publication of the international application.

NORWAY

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AUSTRALIA

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FINLAND

The applicant hereby requests that, until the application has been laid open to public inspection (by the National Board of Patents and Regulations), or has been finally decided upon by the National Board of Patents and Registration without having been laid open to public inspection, the furnishing of a sample shall only be effected to an expert in the art.

UNITED KINGDOM

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Page 2
ATCC Deposit No. 209578

DENMARK

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SWEDEN

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NETHERLANDS

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Applicant's or agent's file reference number	PA106PCT	International application	UNASSIGNED

INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

(PCT Rule 13*bis*)

A. The indications made below relate to the microorganism referred to in the description on page 121, line N/A.

B. IDENTIFICATION OF DEPOSIT — Further deposits are identified on an additional sheet ☐

Name of depositary institution American Type Culture Collection

Address of depositary institution *(including postal code and country)*
10801 University Boulevard
Manassas, Virginia 20110-2209
United States of America

Date of deposit	Accession Number
16 July 1998	203067

C. ADDITIONAL INDICATIONS *(leave blank if not applicable)* — This information is continued on an additional sheet ☐

D. DESIGNATED STATES FOR WHICH INDICATIONS ARE MADE *(if the indications are not for all designated States)*

Europe
In respect to those designations in which a European Patent is sought a sample of the deposited microorganism will be made available until the publication of the mention of the grant of the European patent or until the date on which application has been refused or withdrawn or is deemed to be withdrawn, only by the issue of such a sample to an expert nominated by the person requesting the sample (Rule 28 (4) EPC).

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Authorized officer Jeryl McDowell PCT/Internat'l Appl Processing Div. (703) 305-3633	Authorized officer

ATCC Deposit No. 203067

CANADA

The applicant requests that, until either a Canadian patent has been issued on the basis of an application or the application has been refused, or is abandoned and no longer subject to reinstatement, or is withdrawn, the Commissioner of Patents only authorizes the furnishing of a sample of the deposited biological material referred to in the application to an independent expert nominated by the Commissioner, the applicant must, by a written statement, inform the International Bureau accordingly before completion of technical preparations for publication of the international application.

NORWAY

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AUSTRALIA

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FINLAND

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UNITED KINGDOM

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Page 2
ATCC Deposit No. 203067

DENMARK

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NETHERLANDS

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Applicant's or agent's file reference number	PA106PCT	International application	UNASSIGNED

INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

(PCT Rule 13*bis*)

A. The indications made below relate to the microorganism referred to in the description on page 121, line N/A.

B. IDENTIFICATION OF DEPOSIT — Further deposits are identified on an additional sheet ☐

Name of depositary institution American Type Culture Collection

Address of depositary institution *(including postal code and country)*
10801 University Boulevard
Manassas, Virginia 20110-2209
United States of America

Date of deposit	Accession Number
16 July 1998	203068

C. ADDITIONAL INDICATIONS *(leave blank if not applicable)* — This information is continued on an additional sheet ☐

D. DESIGNATED STATES FOR WHICH INDICATIONS ARE MADE *(if the indications are not for all designated States)*

Europe
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For receiving Office use only	For International Bureau use only
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Authorized officer Jeni McDowell PCT/Internat'l Appl Processing Div. (703) 305-3339	Authorized officer

ATCC Deposit No. 203068

CANADA

The applicant requests that, until either a Canadian patent has been issued on the basis of an application or the application has been refused, or is abandoned and no longer subject to reinstatement, or is withdrawn, the Commissioner of Patents only authorizes the furnishing of a sample of the deposited biological material referred to in the application to an independent expert nominated by the Commissioner, the applicant must, by a written statement, inform the International Bureau accordingly before completion of technical preparations for publication of the international application.

NORWAY

The applicant hereby requests that the application has been laid open to public inspection (by the Norwegian Patent Office), or has been finally decided upon by the Norwegian Patent Office without having been laid open inspection, the furnishing of a sample shall only be effected to an expert in the art. The request to this effect shall be filed by the applicant with the Norwegian Patent Office not later than at the time when the application is made available to the public under Sections 22 and 33(3) of the Norwegian Patents Act. If such a request has been filed by the applicant, any request made by a third party for the furnishing of a sample shall indicate the expert to be used. That expert may be any person entered on the list of recognized experts drawn up by the Norwegian Patent Office or any person approved by the applicant in the individual case.

AUSTRALIA

The applicant hereby gives notice that the furnishing of a sample of a microorganism shall only be effected prior to the grant of a patent, or prior to the lapsing, refusal or withdrawal of the application, to a person who is a skilled addressee without an interest in the invention (Regulation 3.25(3) of the Australian Patents Regulations).

FINLAND

The applicant hereby requests that, until the application has been laid open to public inspection (by the National Board of Patents and Regulations), or has been finally decided upon by the National Board of Patents and Registration without having been laid open to public inspection, the furnishing of a sample shall only be effected to an expert in the art.

UNITED KINGDOM

The applicant hereby requests that the furnishing of a sample of a microorganism shall only be made available to an expert. The request to this effect must be filed by the applicant with the International Bureau before the completion of the technical preparations for the international publication of the application.

Page 2
ATCC Deposit No. 203068

DENMARK

The applicant hereby requests that, until the application has been laid open to public inspection (by the Danish Patent Office), or has been finally decided upon by the Danish Patent office without having been laid open to public inspection, the furnishing of a sample shall only be effected to an expert in the art. The request to this effect shall be filed by the applicant with the Danish Patent Office not later that at the time when the application is made available to the public under Sections 22 and 33(3) of the Danish Patents Act. If such a request has been filed by the applicant, any request made by a third party for the furnishing of a sample shall indicate the expert to be used. That expert may be any person entered on a list of recognized experts drawn up by the Danish Patent Office or any person by the applicant in the individual case.

SWEDEN

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NETHERLANDS

The applicant hereby requests that until the date of a grant of a Netherlands patent or until the date on which the application is refused or withdrawn or lapsed, the microorganism shall be made available as provided in the 31F(1) of the Patent Rules only by the issue of a sample to an expert. The request to this effect must be furnished by the applicant with the Netherlands Industrial Property Office before the date on which the application is made available to the public under Section 22C or Section 25 of the Patents Act of the Kingdom of the Netherlands, whichever of the two dates occurs earlier.

Applicant's or agent's file reference number	PA106PCT	International application	UNASSIGNED

INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

(PCT Rule 13*bis*)

A. The indications made below relate to the microorganism referred to in the description on page 121, line N/A.

B. IDENTIFICATION OF DEPOSIT — Further deposits are identified on an additional sheet ☐

Name of depositary institution American Type Culture Collection

Address of depositary institution *(including postal code and country)*
10801 University Boulevard
Manassas, Virginia 20110-2209
United States of America

Date of deposit	Accession Number
1 February 1999	203609

C. ADDITIONAL INDICATIONS *(leave blank if not applicable)* — This information is continued on an additional sheet ☐

D. DESIGNATED STATES FOR WHICH INDICATIONS ARE MADE *(if the indications are not for all designated States)*

Europe
In respect to those designations in which a European Patent is sought a sample of the deposited microorganism will be made available until the publication of the mention of the grant of the European patent or until the date on which application has been refused or withdrawn or is deemed to be withdrawn, only by the issue of such a sample to an expert nominated by the person requesting the sample (Rule 28 (4) EPC).

E. SEPARATE FURNISHING OF INDICATIONS *(leave blank if not applicable)*

The indications listed below will be submitted to the International Bureau later *(specify the general nature of the indications e.g., "Accession Number of Deposit")*

For receiving Office use only	For International Bureau use only
☑ This sheet was received with the international application	☐ This sheet was received by the International Bureau on:
Authorized officer Joryl McDowell PCT/Internat'l Appl Processing Div. (703) 305-3339	Authorized officer

ATCC Deposit No. 203609

CANADA

The applicant requests that, until either a Canadian patent has been issued on the basis of an application or the application has been refused, or is abandoned and no longer subject to reinstatement, or is withdrawn, the Commissioner of Patents only authorizes the furnishing of a sample of the deposited biological material referred to in the application to an independent expert nominated by the Commissioner, the applicant must, by a written statement, inform the International Bureau accordingly before completion of technical preparations for publication of the international application.

NORWAY

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AUSTRALIA

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FINLAND

The applicant hereby requests that, until the application has been laid open to public inspection (by the National Board of Patents and Regulations), or has been finally decided upon by the National Board of Patents and Registration without having been laid open to public inspection, the furnishing of a sample shall only be effected to an expert in the art.

UNITED KINGDOM

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Page 2
ATCC Deposit No. 203609

DENMARK

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SWEDEN

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NETHERLANDS

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Applicant's or agent's file reference number	PA106PCT	International application	UNASSIGNED

INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

(PCT Rule 13*bis*)

A. The indications made below relate to the microorganism referred to in the description on page 121, line N/A.

B. IDENTIFICATION OF DEPOSIT Further deposits are identified on an additional sheet ☐

Name of depositary institution American Type Culture Collection

Address of depositary institution *(including postal code and country)*
10801 University Boulevard
Manassas, Virginia 20110-2209
United States of America

Date of deposit	Accession Number
1 February 1999	203610

C. ADDITIONAL INDICATIONS *(leave blank if not applicable)* This information is continued on an additional sheet ☐

D. DESIGNATED STATES FOR WHICH INDICATIONS ARE MADE *(if the indications are not for all designated States)*

Europe
In respect to those designations in which a European Patent is sought a sample of the deposited microorganism will be made available until the publication of the mention of the grant of the European patent or until the date on which application has been refused or withdrawn or is deemed to be withdrawn, only by the issue of such a sample to an expert nominated by the person requesting the sample (Rule 28 (4) EPC).

E. SEPARATE FURNISHING OF INDICATIONS *(leave blank if not applicable)*

The indications listed below will be submitted to the International Bureau later *(specify the general nature of the indications e.g., "Accession Number of Deposit")*

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Authorized officer Jeryl McDowell PCT/Internat'l Appl Processing Div. (703) 305-3639	Authorized officer

ATCC Deposit No. 203610

CANADA

The applicant requests that, until either a Canadian patent has been issued on the basis of an application or the application has been refused, or is abandoned and no longer subject to reinstatement, or is withdrawn, the Commissioner of Patents only authorizes the furnishing of a sample of the deposited biological material referred to in the application to an independent expert nominated by the Commissioner, the applicant must, by a written statement, inform the International Bureau accordingly before completion of technical preparations for publication of the international application.

NORWAY

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AUSTRALIA

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FINLAND

The applicant hereby requests that, until the application has been laid open to public inspection (by the National Board of Patents and Regulations), or has been finally decided upon by the National Board of Patents and Registration without having been laid open to public inspection, the furnishing of a sample shall only be effected to an expert in the art.

UNITED KINGDOM

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Page 2
ATCC Deposit No. 203610

DENMARK

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SWEDEN

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NETHERLANDS

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Applicant's or agent's file reference number	PA106PCT	International application	UNASSIGNED

INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

(PCT Rule 13*bis*)

A. The indications made below relate to the microorganism referred to in the description on page 121, line N/A.

B. IDENTIFICATION OF DEPOSIT — Further deposits are identified on an additional sheet ☐

Name of depositary institution American Type Culture Collection

Address of depositary institution *(including postal code and country)*
10801 University Boulevard
Manassas, Virginia 20110-2209
United States of America

Date of deposit	Accession Number
17 November 1998	203485

C. ADDITIONAL INDICATIONS *(leave blank if not applicable)* — This information is continued on an additional sheet ☐

D. DESIGNATED STATES FOR WHICH INDICATIONS ARE MADE *(if the indications are not for all designated States)*

Europe
In respect to those designations in which a European Patent is sought a sample of the deposited microorganism will be made available until the publication of the mention of the grant of the European patent or until the date on which application has been refused or withdrawn or is deemed to be withdrawn, only by the issue of such a sample to an expert nominated by the person requesting the sample (Rule 28 (4) EPC).

E. SEPARATE FURNISHING OF INDICATIONS *(leave blank if not applicable)*

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Authorized officer Jeri McDowell PCT/Internat'l Appl Processing Div. (703) 305-3839	Authorized officer

ATCC Deposit No. 203485

CANADA

The applicant requests that, until either a Canadian patent has been issued on the basis of an application or the application has been refused, or is abandoned and no longer subject to reinstatement, or is withdrawn, the Commissioner of Patents only authorizes the furnishing of a sample of the deposited biological material referred to in the application to an independent expert nominated by the Commissioner, the applicant must, by a written statement, inform the International Bureau accordingly before completion of technical preparations for publication of the international application.

NORWAY

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AUSTRALIA

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FINLAND

The applicant hereby requests that, until the application has been laid open to public inspection (by the National Board of Patents and Regulations), or has been finally decided upon by the National Board of Patents and Registration without having been laid open to public inspection, the furnishing of a sample shall only be effected to an expert in the art.

UNITED KINGDOM

The applicant hereby requests that the furnishing of a sample of a microorganism shall only be made available to an expert. The request to this effect must be filed by the applicant with the International Bureau before the completion of the technical preparations for the international publication of the application.

Page 2
ATCC Deposit No. 203485

DENMARK

The applicant hereby requests that, until the application has been laid open to public inspection (by the Danish Patent Office), or has been finally decided upon by the Danish Patent office without having been laid open to public inspection, the furnishing of a sample shall only be effected to an expert in the art. The request to this effect shall be filed by the applicant with the Danish Patent Office not later that at the time when the application is made available to the public under Sections 22 and 33(3) of the Danish Patents Act. If such a request has been filed by the applicant, any request made by a third party for the furnishing of a sample shall indicate the expert to be used. That expert may be any person entered on a list of recognized experts drawn up by the Danish Patent Office or any person by the applicant in the individual case.

SWEDEN

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NETHERLANDS

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Applicant's or agent's file reference number	PA106PCT	International application	UNASSIGNED

INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

(PCT Rule 13*bis*)

A. The indications made below relate to the microorganism referred to in the description on page 121, line N/A.

B. IDENTIFICATION OF DEPOSIT — Further deposits are identified on an additional sheet ☐

Name of depositary institution American Type Culture Collection

Address of depositary institution *(including postal code and country)*
10801 University Boulevard
Manassas, Virginia 20110-2209
United States of America

Date of deposit	Accession Number
18 June 1999	PTA-252

C. ADDITIONAL INDICATIONS *(leave blank if not applicable)* — This information is continued on an additional sheet ☐

D. DESIGNATED STATES FOR WHICH INDICATIONS ARE MADE *(if the indications are not for all designated States)*

Europe
In respect to those designations in which a European Patent is sought a sample of the deposited microorganism will be made available until the publication of the mention of the grant of the European patent or until the date on which application has been refused or withdrawn or is deemed to be withdrawn, only by the issue of such a sample to an expert nominated by the person requesting the sample (Rule 28 (4) EPC).

E. SEPARATE FURNISHING OF INDICATIONS *(leave blank if not applicable)*

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Authorized officer Jaryl McDowell PCT/Internat'l Appl Processing Div. (703) 305-3839	Authorized officer

ATCC Deposit No. PTA-252

CANADA

The applicant requests that, until either a Canadian patent has been issued on the basis of an application or the application has been refused, or is abandoned and no longer subject to reinstatement, or is withdrawn, the Commissioner of Patents only authorizes the furnishing of a sample of the deposited biological material referred to in the application to an independent expert nominated by the Commissioner, the applicant must, by a written statement, inform the International Bureau accordingly before completion of technical preparations for publication of the international application.

NORWAY

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AUSTRALIA

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FINLAND

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UNITED KINGDOM

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Page 2
ATCC Deposit No. PTA-252

DENMARK

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SWEDEN

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NETHERLANDS

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Applicant's or agent's file reference number	PA106PCT	International application '	UNASSIGNED

INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

(PCT Rule 13*bis*)

A. The indications made below relate to the microorganism referred to in the description on page 121, line N/A.

B. IDENTIFICATION OF DEPOSIT — Further deposits are identified on an additional sheet ☐

Name of depositary institution American Type Culture Collection

Address of depositary institution *(including postal code and country)*
10801 University Boulevard
Manassas, Virginia 20110-2209
United States of America

Date of deposit	Accession Number
18 June 1999	PTA-253

C. ADDITIONAL INDICATIONS *(leave blank if not applicable)* — This information is continued on an additional sheet ☐

D. DESIGNATED STATES FOR WHICH INDICATIONS ARE MADE *(if the indications are not for all designated States)*

Europe
In respect to those designations in which a European Patent is sought a sample of the deposited microorganism will be made available until the publication of the mention of the grant of the European patent or until the date on which application has been refused or withdrawn or is deemed to be withdrawn, only by the issue of such a sample to an expert nominated by the person requesting the sample (Rule 28 (4) EPC).

E. SEPARATE FURNISHING OF INDICATIONS *(leave blank if not applicable)*

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Jeryl McDowell	
Authorized officer PCT/Internat. Appl Processing Div. (703) 305-3639	Authorized officer

ATCC Deposit No. PTA-253

CANADA

The applicant requests that, until either a Canadian patent has been issued on the basis of an application or the application has been refused, or is abandoned and no longer subject to reinstatement, or is withdrawn, the Commissioner of Patents only authorizes the furnishing of a sample of the deposited biological material referred to in the application to an independent expert nominated by the Commissioner, the applicant must, by a written statement, inform the International Bureau accordingly before completion of technical preparations for publication of the international application.

NORWAY

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AUSTRALIA

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FINLAND

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UNITED KINGDOM

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Page 2
ATCC Deposit No. PTA-253

DENMARK

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The applicant hereby requests that, until the application has been laid open to public inspection (by the Swedish Patent Office), or has been finally decided upon by the Swedish Patent Office without having been laid open to public inspection, the furnishing of a sample shall only be effected to an expert in the art. The request to this effect shall be filed by the applicant with the International Bureau before the expiration of 16 months from the priority date (preferably on the Form PCT/RO/134 reproduced in annex Z of Volume I of the PCT Applicant's Guide). If such a request has been filed by the applicant any request made by a third party for the furnishing of a sample shall indicate the expert to be used. That expert may be any person entered on a list of recognized experts drawn up by the Swedish Patent Office or any person approved by a applicant in the individual case.

NETHERLANDS

The applicant hereby requests that until the date of a grant of a Netherlands patent or until the date on which the application is refused or withdrawn or lapsed, the microorganism shall be made available as provided in the 31F(1) of the Patent Rules only by the issue of a sample to an expert. The request to this effect must be furnished by the applicant with the Netherlands Industrial Property Office before the date on which the application is made available to the public under Section 22C or Section 25 of the Patents Act of the Kingdom of the Netherlands, whichever of the two dates occurs earlier.

Applicant's or agent's file reference number	PA106PCT	International application	UNASSIGNED

INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

(PCT Rule 13*bis*)

A. The indications made below relate to the microorganism referred to in the description on page 121, line N/A.

B. IDENTIFICATION OF DEPOSIT Further deposits are identified on an additional sheet ☐

Name of depositary institution American Type Culture Collection

Address of depositary institution *(including postal code and country)*
10801 University Boulevard
Manassas, Virginia 20110-2209
United States of America

Date of deposit	Accession Number
22 December 1999	PTA-1081

C. ADDITIONAL INDICATIONS *(leave blank if not applicable)* This information is continued on an additional sheet ☐

D. DESIGNATED STATES FOR WHICH INDICATIONS ARE MADE *(if the indications are not for all designated States)*

Europe
In respect to those designations in which a European Patent is sought a sample of the deposited microorganism will be made available until the publication of the mention of the grant of the European patent or until the date on which application has been refused or withdrawn or is deemed to be withdrawn, only by the issue of such a sample to an expert nominated by the person requesting the sample (Rule 28 (4) EPC).

E. SEPARATE FURNISHING OF INDICATIONS *(leave blank if not applicable)*

The indications listed below will be submitted to the International Bureau later *(specify the general nature of the indications e.g., "Accession Number of Deposit")*

For receiving Office use only	For International Bureau use only
☑ This sheet was received with the international application	☐ This sheet was received by the International Bureau on:
Authorized officer Jenni McDowell PCT/Internat'l Appl Processing Div. (703) 305-3639	Authorized officer

ATCC Deposit No. PTA-1081

CANADA

The applicant requests that, until either a Canadian patent has been issued on the basis of an application or the application has been refused, or is abandoned and no longer subject to reinstatement, or is withdrawn, the Commissioner of Patents only authorizes the furnishing of a sample of the deposited biological material referred to in the application to an independent expert nominated by the Commissioner, the applicant must, by a written statement, inform the International Bureau accordingly before completion of technical preparations for publication of the international application.

NORWAY

The applicant hereby requests that the application has been laid open to public inspection (by the Norwegian Patent Office), or has been finally decided upon by the Norwegian Patent Office without having been laid open inspection, the furnishing of a sample shall only be effected to an expert in the art. The request to this effect shall be filed by the applicant with the Norwegian Patent Office not later than at the time when the application is made available to the public under Sections 22 and 33(3) of the Norwegian Patents Act. If such a request has been filed by the applicant, any request made by a third party for the furnishing of a sample shall indicate the expert to be used. That expert may be any person entered on the list of recognized experts drawn up by the Norwegian Patent Office or any person approved by the applicant in the individual case.

AUSTRALIA

The applicant hereby gives notice that the furnishing of a sample of a microorganism shall only be effected prior to the grant of a patent, or prior to the lapsing, refusal or withdrawal of the application, to a person who is a skilled addressee without an interest in the invention (Regulation 3.25(3) of the Australian Patents Regulations).

FINLAND

The applicant hereby requests that, until the application has been laid open to public inspection (by the National Board of Patents and Regulations), or has been finally decided upon by the National Board of Patents and Registration without having been laid open to public inspection, the furnishing of a sample shall only be effected to an expert in the art.

UNITED KINGDOM

The applicant hereby requests that the furnishing of a sample of a microorganism shall only be made available to an expert. The request to this effect must be filed by the applicant with the International Bureau before the completion of the technical preparations for the international publication of the application.

Page 2
ATCC Deposit No. PTA-1081

DENMARK

The applicant hereby requests that, until the application has been laid open to public inspection (by the Danish Patent Office), or has been finally decided upon by the Danish Patent office without having been laid open to public inspection, the furnishing of a sample shall only be effected to an expert in the art. The request to this effect shall be filed by the applicant with the Danish Patent Office not later that at the time when the application is made available to the public under Sections 22 and 33(3) of the Danish Patents Act. If such a request has been filed by the applicant, any request made by a third party for the furnishing of a sample shall indicate the expert to be used. That expert may be any person entered on a list of recognized experts drawn up by the Danish Patent Office or any person by the applicant in the individual case.

SWEDEN

The applicant hereby requests that, until the application has been laid open to public inspection (by the Swedish Patent Office), or has been finally decided upon by the Swedish Patent Office without having been laid open to public inspection, the furnishing of a sample shall only be effected to an expert in the art. The request to this effect shall be filed by the applicant with the International Bureau before the expiration of 16 months from the priority date (preferably on the Form PCT/RO/134 reproduced in annex Z of Volume I of the PCT Applicant's Guide). If such a request has been filed by the applicant any request made by a third party for the furnishing of a sample shall indicate the expert to be used. That expert may be any person entered on a list of recognized experts drawn up by the Swedish Patent Office or any person approved by a applicant in the individual case.

NETHERLANDS

The applicant hereby requests that until the date of a grant of a Netherlands patent or until the date on which the application is refused or withdrawn or lapsed, the microorganism shall be made available as provided in the 31F(1) of the Patent Rules only by the issue of a sample to an expert. The request to this effect must be furnished by the applicant with the Netherlands Industrial Property Office before the date on which the application is made available to the public under Section 22C or Section 25 of the Patents Act of the Kingdom of the Netherlands, whichever of the two dates occurs earlier.

What Is Claimed Is:

1. An isolated nucleic acid molecule comprising a polynucleotide having a nucleotide sequence at least 95% identical to a sequence selected from the group consisting of:

(a) a polynucleotide fragment of SEQ ID NO:X or a polynucleotide fragment of the cDNA sequence included in the related cDNA clone, which is hybridizable to SEQ ID NO:X;

(b) a polynucleotide encoding a polypeptide fragment of SEQ ID NO:Y or a polypeptide fragment encoded by the cDNA sequence included in the related cDNA clone, which is hybridizable to SEQ ID NO:X;

(c) a polynucleotide encoding a polypeptide fragment of a polypeptide encoded by SEQ ID NO:X or a polypeptide fragment encoded by the cDNA sequence included in the related cDNA clone, which is hybridizable to SEQ ID NO:X;

(d) a polynucleotide encoding a polypeptide domain of SEQ ID NO:Y or a polypeptide domain encoded by the cDNA sequence included in the related cDNA clone, which is hybridizable to SEQ ID NO:X;

(e) a polynucleotide encoding a polypeptide epitope of SEQ ID NO:Y or a polypeptide epitope encoded by the cDNA sequence included in the related cDNA clone, which is hybridizable to SEQ ID NO:X;

(f) a polynucleotide encoding a polypeptide of SEQ ID NO:Y or the cDNA sequence included in the related cDNA clone, which is hybridizable to SEQ ID NO:X, having biological activity;

(g) a polynucleotide which is a variant of SEQ ID NO:X;

(h) a polynucleotide which is an allelic variant of SEQ ID NO:X;

(i) a polynucleotide which encodes a species homologue of the SEQ ID NO:Y;

(j) a polynucleotide capable of hybridizing under stringent conditions to any one of the polynucleotides specified in (a)-(i), wherein said polynucleotide does not hybridize under stringent conditions to a nucleic acid molecule having a nucleotide

sequence of only A residues or of only T residues.

2. The isolated nucleic acid molecule of claim 1, wherein the polynucleotide fragment comprises a nucleotide sequence encoding a protein.

3. The isolated nucleic acid molecule of claim 1, wherein the polynucleotide fragment comprises a nucleotide sequence encoding the sequence identified as SEQ ID NO:Y or the polypeptide encoded by the cDNA sequence included in the related cDNA clone, which is hybridizable to SEQ ID NO:X.

4. The isolated nucleic acid molecule of claim 1, wherein the polynucleotide fragment comprises the entire nucleotide sequence of SEQ ID NO:X or the cDNA sequence included in the related cDNA clone, which is hybridizable to SEQ ID NO:X.

5. The isolated nucleic acid molecule of claim 2, wherein the nucleotide sequence comprises sequential nucleotide deletions from either the C-terminus or the N-terminus.

6. The isolated nucleic acid molecule of claim 3, wherein the nucleotide sequence comprises sequential nucleotide deletions from either the C-terminus or the N-terminus.

7. A recombinant vector comprising the isolated nucleic acid molecule of claim 1.

8. A method of making a recombinant host cell comprising the isolated nucleic acid molecule of claim 1.

9. A recombinant host cell produced by the method of claim 8.

10. The recombinant host cell of claim 9 comprising vector sequences.

11. An isolated polypeptide comprising an amino acid sequence at least 95% identical to a sequence selected from the group consisting of:

(a) a polypeptide fragment of SEQ ID NO:Y or of the sequence encoded by the cDNA included in the related cDNA clone;

(b) a polypeptide fragment of SEQ ID NO:Y or of the sequence encoded by the cDNA included in the related cDNA clone, having biological activity;

(c) a polypeptide domain of SEQ ID NO:Y or of the sequence encoded by the cDNA included in the related cDNA clone;

(d) a polypeptide epitope of SEQ ID NO:Y or of the sequence encoded by the cDNA included in the related cDNA clone;

(e) a full length protein of SEQ ID NO:Y or of the sequence encoded by the cDNA included in the related cDNA clone;

(f) a variant of SEQ ID NO:Y;

(g) an allelic variant of SEQ ID NO:Y; or

(h) a species homologue of the SEQ ID NO:Y.

12. The isolated polypeptide of claim 11, wherein the full length protein comprises sequential amino acid deletions from either the C-terminus or the N-terminus.

13. An isolated antibody that binds specifically to the isolated polypeptide of claim 11.

14. A recombinant host cell that expresses the isolated polypeptide of claim 11.

15. A method of making an isolated polypeptide comprising:

(a) culturing the recombinant host cell of claim 14 under conditions such that said polypeptide is expressed; and

(b) recovering said polypeptide.

16. The polypeptide produced by claim 15.

17. A method for preventing, treating, or ameliorating a medical condition, comprising administering to a mammalian subject a therapeutically effective amount of the polypeptide of claim 11 or the polynucleotide of claim 1.

18. A method of diagnosing a pathological condition or a susceptibility to a pathological condition in a subject comprising:

(a) determining the presence or absence of a mutation in the polynucleotide of claim 1; and

(b) diagnosing a pathological condition or a susceptibility to a pathological condition based on the presence or absence of said mutation.

19. A method of diagnosing a pathological condition or a susceptibility to a pathological condition in a subject comprising:

(a) determining the presence or amount of expression of the polypeptide of claim 11 in a biological sample; and

(b) diagnosing a pathological condition or a susceptibility to a pathological condition based on the presence or amount of expression of the polypeptide.

20. A method for identifying a binding partner to the polypeptide of claim 11 comprising:

(a) contacting the polypeptide of claim 11 with a binding partner; and

(b) determining whether the binding partner effects an activity of the polypeptide.

21. The gene corresponding to the cDNA sequence of SEQ ID NO:Y.

22. A method of identifying an activity in a biological assay, wherein the method comprises:

(a) expressing SEQ ID NO:X in a cell;

(b) isolating the supernatant;

(c) detecting an activity in a biological assay; and

(d) identifying the protein in the supernatant having the activity.

23. The product produced by the method of claim 20.

SEQUENCE LISTING

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Steve Ruben

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<213> Homo sapiens

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<222> (896)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1246)
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<213> Homo sapiens

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<223> n equals a,t,g, or c

<220>
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<222> (983)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1055)
<223> n equals a,t,g, or c

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<222> (1373)
<223> n equals a,t,g, or c

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<211> 3804
<212> DNA
<213> Homo sapiens

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<223> n equals a,t,g, or c

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<222> (846)
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<220>
<221> misc feature
<222> (2150)
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attctggttn agggcntgag gcattggacc ttcattnttt ttcaatttan accccag 2157

<210> 13
<211> 1117
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (1102)
<223> n equals a,t,g, or c

<400> 13
ggcagagcct ggactcccgt gagctggaag gaacagattt aatatctagg ggctgggtat 60
ccccacatca ctcatttggg gggtcaaggg acccgggcaa tatagtattc tgctcagtgt 120
ctggagatca tctacccagg ctggggcttc tgggacaggc gaggacccac ggaccctgga 180
agagctggtc caggggactg aactcccggc atctttacag agcagagcat gatcacattc 240
ctgccgctgc tgctggggct cagcctgggc tgcacaggag caggtggctt cgtggcccat 300
gtggaaagca cctgtctgtt ggatgatgct gggactccaa aggatttcac atactgcatc 360
tccttcaaca aggatctgct gacctgctgg gatccagagg agaataagat ggccccttgc 420
gaatttgggg tgctgaatag cttggcgaat gtcctctcac agcacctcaa ccaaaaagac 480
accctgatgc agcgcttgcg caatggcttt cagaattgtg ccacacacac ccagcccttc 540
tggggatcac tgaccaacag gacacggcca ccatctgtgc aagtagccaa aaccactcct 600
tttaacacga gggagcctgt gatgctggcc tgctatgtgt ggggcttcta tccagcagaa 660
gtgactatca cgtggaggaa gaacgggaag cttgtcatgc ctcacagcag tgcgcacaag 720
actgcccagc ccaatggaga ctggacatac cagaccctct cccatttagc cttaaccccc 780
tcttacgggg acacttacac ctgtktggta gagcacattg gggctcctga gcccatcctt 840
cgggactgga cacctgggct gtcccccatg cagaccctga aggtttctgt gtctgcagtg 900
actctgggcc tgggcctcat catcttctct cttggtgtga tcagctggcg gagagctggc 960
cactctagtt acactcctct tcctgggtcc aattattcag aaggatggca catttcctag 1020
aggcagaatc tacaacttcc actccaagtg agaaggagrt tcaaactcaa tgrtgstacc 1080
awgcctctcc aacatcttca ancccctgac attattt 1117

<210> 14

<211> 885
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (869)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (884)
<223> n equals a,t,g, or c

<400> 14
gtggtggctc gtttcatccg catctaccca ctcacctgga atggcagcct gtgcatgcgc 60
ctggaggtgc tggggtgctc tgtggcccct gtctacagct actacgcaca gaatgaggtg 120
gtggccaccg atgacctgga tttccggcac cacagctaca aggacatgcg ccagctcatg 180
aaggtggtga acgaggagtg ccccaccatc acccgcactt acagcctggg caagagctca 240
cgaggcctca agatctatgc catggagatc tcagacaacc ctggggagca tgaactgggg 300
gagcccgagt tccgctacac tgctgggatc catggcaacg aggtgctggg ccgagagctg 360
ttgctgctgc tcatgcagta cctgtgccga gagtaccgcg atgggaaccc acgtgtgcgc 420
agctggtgca ggacacacgc atccacctgg tgccctcact gaaccctgat ggctacgagg 480
tggcagcgca gatgggctca gagtttggga actgggcgct gggactgtgg actgaggagg 540
gctttgacat ctttgaagat ttcccggatc tcaactctgt gctctgggga gctgaggaga 600
ggaaatgggt cccctaccgg gtccccaaca ataacttgcc catccctgaa cgctaccttt 660
cgccagatgc cacggtatcc acggaggtcc gggccatcat tgcctggatg gagaagaacc 720
ccttcgtgct gggagcaaat ctgaacggcg gcgagcggct agtatcctac ccctacgata 780
tggcccgcac gccttaccca ggagcagctg ctggccgcac catggcagca rcccgggggg 840
aggatgagga cgaggtytcc raggcccang agattccaga ccang 885

<210> 15
<211> 1024
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (938)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1005)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1012)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1019)
<223> n equals a,t,g, or c

<400> 15
cttgcctttc ccagaaggct gtgcgtgctc ctcgcttyct ccgcggtctt ccgagcggtc 60
gcgtgaactg cttcctgcag gctggccatg gcgcttcacg ttcccaaggc tccgggcttt 120
gccagatgct caaggaggga gcgaaacact tttcaggatt agaagaggct gtgtatagaa 180
acatacaagc ttgcaaggag cttgcccaaa ccactcgtac agcatatgga ccaaatggaa 240
tgaacaaaat ggttatcaac cacttggaga agttgtttgt gacaaacgat gcagcaacta 300
ttttaagaga actagaagta cagcatcctg ctgcaaaaat gattgtaatg gcttctcata 360
tgcaagagca agaagttgga gatggcacaa actttgttct ggtatttgct ggagctctcc 420
tggaattagc tgaagaactt ctgaggattg gcctgtcagt ttcagaggtc atagaaggtt 480
atgaaatagc ctgcagaaaa gctcatgaga ttcttcctaa tttggtatgt tgttctgcaa 540
aaaaccttcg agatattgat gaagtctcat ctctacttcg tacctccata atgagtaaac 600
aatatggtaa tgaagtattt ctggccaagc ttattgctca ggcatgcgta tctatttttc 660
ctgattccgg ccatttcaat gttgataaca tcagagtttg taaaattctg ggctctggta 720
tcagttcctc ttcagtattg catggcatgg tttttaagaa ggaaaccgaa gtgatgtaac 780
atctgtcaaa gatgcaaaaa tagcagtgta ctcttgtcct tttgatggca tgataacaga 840
aactaaggga acagtgttga taaagactgc tgaagrattg atgaatttta gtaagggagr 900
agaaacctca tggrtgcaca agtcaaagct attgctgnta ctggtgcaat gtcgagtaca 960
ggtggcaagt ggcagacatg gtctcatatg caataaatta attcntgtag gnggtaacnc 1020
aaat 1024

<210> 16
<211> 545
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (40)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (45)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (403)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (476)
<223> n equals a,t,g, or c

<220>

<221> misc feature
<222> (507)
<223> n equals a,t,g, or c

<400> 16
cccgactcac taccccccc ctccccccgc ctgccggccn ccggnccgga attcccgggt 60
cgacccacgc gtccggagag gagccccagc cttgggattc ccaagtgttt tcattcagtg 120
atcaggactg aacacagagg actcaccatg gagtttgggc tgagctggat tttccttgct 180
gctattttaa aaggtgtcca gtgtgaggtg cagctggtgg agtctggggg aggcttggta 240
aagcctgggg ggtcccttag actctcctgt gcagcctctg gattcacttt cagtaacgcc 300
tggatgagct gggtccgcca ggctccaggg aaggggctgg agtgggttgg ccgtattaaa 360
agcaaaactg atggtgggac aacagactac gctgcacccg tgnaaaggca gattcaccat 420
ctcaagagat gattcaaaaa acacgytgta tytgcaaatg aacagcctga aaaccngagg 480
acacagccgt gtattactgt accacangac ccctaattac tatgatagta rtgcaaaaag 540
ctttt 545

<210> 17
<211> 623
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (15)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (613)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (616)
<223> n equals a,t,g, or c

<400> 17
cggattcgcg gccgntcgac gccgagctgg gtgcggtgag gcgcgcagat caccgcggtt 60
cctgggcagg gcacggaagg ctaagcaagg ctgacctgct gcagctcccg cctcgtgcgc 120
tcgccccacc cggccgccgc ccgagcgctc gagaaagtcc tctcgggaga agcagcgcct 180
gttcccgggg cagatccagg ttcaggtcct ggctataagt caccatggca cagcaagctg 240
ccgataagta tctctatgtg gataaaaact tcatcaacaa tccgctggcc caggccgact 300
gggctgccaa gaagctggta tgggtgcctt ccgacaagag tggctttgag ccagccagcc 360
tcaaggagga rgtgggcgaa gaggccatcg tggagctggt ggagaatggg aagaaggtga 420
aggtgaacaa ggatgacatc cagaagatga acccgcccaa gttctccaag gtggaggaca 480
tggcagagct cacgtgcctc aacgaagcct cggtgttgca caacctcaag gagcgttact 540
actcagggct catctacgta agtggctgcc gtggcacccc gcaggctggg tctgagggct 600
ccgaggtggg ggnggnggcg ggt 623

<210> 18
<211> 559

<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (371)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (531)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (544)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (547)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (556)
<223> n equals a,t,g, or c

<400> 18
cccacgcgtc cgcccacgcg tccggtgaga taggtaggca agtgtggaca aagataaaac 60
tgaaaaacca ctgcaaaggt tgaggtaaga caccataagc cgctgaacta agacaaagtc 120
attagtaatt ttaaaatgag grtgggaatt aactaacaga actgatagga agtgttaaca 180
tacaacaggg gagtctaaga tggcttccaa ttttcactta gaggggtaag ggtaccatta 240
acttaagatc attaatacag raaaattaat cagatttgga gtttaccaag gtttgctttt 300
ggttgtaaca atgatatatg ataaaattaa atgrataaat aagtgratgc actggtgaat 360
taatgagctg ntctcattaa gaccagagta cttatttata acaaaagtaa cttttccctt 420
tccctgggta catcaaactg tactccacag ataacagaca ccagtgagtt tttcatggtt 480
aaaaaagccc caactttgac ctataaatgt ggaccaagaa attaaaataa nctggaacca 540
gcgngcnacg gtattngga 559

<210> 19
<211> 1355
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (55)
<223> n equals a,t,g, or c

<220>

<221> misc feature
<222> (1045)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1355)
<223> n equals a,t,g, or c

<400> 19
cagcccatgg tgtcacctcg gccccggaca acaggcccgc cttgggctcc accgnccctc 60
cagtccacaa tgtcacctcg gcctcaggct ctgcatcagg ctcagcttct actctggtgc 120
acaacggcac ctctgccagg gctaccacaa ccccagccag caagagcact ccattctcaa 180
ttcccagcca ccactctgat actcctacca cccttgccag ccatagcacc aagactgatg 240
ccagtagcac tcaccatagc acggtacctc ctctcacctc ctccaatcac agcacttctc 300
cccagttgtc tactggggtc tctttctttt tcctgtcttt tcacatttca aacctccagt 360
ttaattcctc tctggaagat cccagcaccg actactacca agagctgcag agagacattt 420
ctgaaatgtt tttgcagatt tataaacaag gggttttct gggcctctcc aatattaagt 480
tcaggccagg atctgtggtg gtacaattga ctctggcctt ccgagaaggt accatcaatg 540
tccacgacgt ggagacacag ttcaatcagt ataaaacgga agcagcctct cgatataacc 600
tgacgatctc agacgtcagc gtgagtgatg tgccatttcc tttctctgcc cagtctgggg 660
ctggggtgcc aggctggggc atcgcgctgc tggtgctggt ctgtgttctg gttgcgctgg 720
ccattgtcta tctcattgcc ttggctgtct gtcagtgccg ccgaaagaac tacgggcagc 780
tggacatctt tccagcccgg gatacctacc atcctatgag cgagtacccc acctaccaca 840
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ggactggccc agagagccct gagatagcgg ggatcctgaa ctggactgaa taaaacgtgg 1260
tctcccactg aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1320
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaan 1355

<210> 20
<211> 1280
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (1043)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1162)
<223> n equals a,t,g, or c

<400> 20
aattcggcac gagccttacc caggtcctgc tcggggctgg ggagaacacc aaaacaaacc 60

tggagagcat cctctcttac cccaaggact tcacctgtgt ccaccaggcc ctgaagggct 120
tcacgaccaa aggtgtcacc tcagtctctc agatcttcca cagcccagac ctggccataa 180
gggacacctt tgtgaatgcc tctcggaccc tgtacagcag cagccccaga gtcctaagca 240
acaacagtga cgccaacttg gagctcatca acacctgggt ggccaagaac accaacaaca 300
agatcagccg gctgctagac agtctgccct ccgatacccg ccttgtcctc ctcaatgcta 360
tctacctgag tgccaagtgg aagacaacat ttgatcccaa gaaaaccaga atggaaccct 420
ttcacttcaa aaactcagtt ataaaagtgc ccatgatgaa tagcaagaag taccctgtgg 480
cccatttcat tgaccaaact ttgaaagcca aggtggggca gctgcagctc tcccacaatc 540
tgagtttggt gatcctggta ccccagaacc tgaaacatcg tcttgaagac atggaacagg 600
ctctcagccc ttctgttttc aaggccatca tggagaaact ggagatgtcc aagttccagc 660
ccactctcct aacactaccc cgcatcaaag tgacgaccag ccaggatatg ctctcaatca 720
tggagaaatt ggaattcttc gatttttctt atgaccttaa cctgtgtggg ctgacagagg 780
acccagatct tcaggtttct gcgatgcagc accagacagt gctggaactg acagagactg 840
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tgcagcagcc cttcctcttc rtgctctggg accagcagca caagttccct gtcttcatgg 960
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cctcctgcct caggtgtccg ctatccacca aaagggctcc ctgagggtct gggcaaggga 1140
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tttctctagt tcaagttcac cagactctat aaataaaacc tgacagacca tgaaaaaaaa 1260
aaaaaaaaac tcaagactag 1280

<210> 21
<211> 1191
<212> DNA
<213> Homo sapiens

<400> 21
gcaattcctt ctggcttcct gtgacctcac gcaagaaaag gttgtgtact aaatgaatct 60
gctttaactt gctctccttc ctcggggatc acaccttttt aagaaagcct gtcccttacc 120
ttgaagcaca aacatattct catttttatt ctcccaatac cttgaaggtt ttcttctgca 180
catgtatttg tttgatctgc cttttgtgcg tggggtggga gttaggtagg aatcttaaag 240
tggagagcca gtttcttccc aaattactga cctaacccat ccttaacccc cagttcaagg 300
ccacctttgt gatagtgaag cttccacatg ctcactcagc cccttctgct ctctcttctt 360
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ggtggctgtg tgtgcacaac ttcaacttta catgtggggc tgagtcccta tgttgtatat 480
ccttgtgcaa aagcacaata tgttaattgc tatagctttt aaaaaaataa ttaatagttt 540
ttcataatca aattttcttg ctttttttgtt ttttcaaaaa agcatacttt tattgaagaa 600
taaacccctt atatatgtac acttatttat aactatgaac gcctgaacta ggatagaaat 660
gcattgtgta tattacaaaa cataacaaaa ataatagggg tagggaggtg cagatgttgg 720
tcaaaggata taaacctgca gttctatgat gaataagttc tggacatctg gaatacagca 780
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caagtgttct caccacacaa acccaaaggt aactatgttc tcaccacaca aacccaaagg 900
gaactatgta ttaattagct tgattgtggt aaccatttca caatgtatac atttgccaaa 960
acattatgtt gtatacctgg aatatataat tttatttatc aattatacct caataaagct 1020
gaaagagggg attactaatt cccacaaaat acagatttaa caaaaacttt tattcaacaa 1080
acagtgctat gaagttgtaa attggaaaca aaagaaataa aatttcatcc acagtcttct 1140
catcaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaactcgtag g 1191

<210> 22
<211> 853

<212> DNA
<213> Homo sapiens

<400> 22
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cttggaggat ttggaactag ctctggtttt ggatgcagca ccacaggggc ctccacattt 180
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acatctgggt ttaacttcag caatcctggc atcacggcat cagctggttt gacttttggg 300
gtgtccaatc ctgcctctgc aggttttgga acaggaggac aactccttca gttgaagaaa 360
cctccagctg graacaaaag aggaaaaaga taaacatggg ttgatgtgtt gagagaatcc 420
atagcagcac cgttcattct atgagtctat ttttctaatg atgcagtaat taaattgcat 480
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gtttgccata ctgaacawct tttttcttgt ggaatttaaa gtccagctgt gttttctttt 600
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accattaacc taaaacttac tatttaacct agtgtttttg ttgatgaggt ttacattatg 720
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tcaatttgtt ccttgttaaa ggccttttga attatactgc agggcatctt gtgaatatgt 840
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<210> 23
<211> 474
<212> DNA
<213> Homo sapiens

<400> 23
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caggtaatat ttgacttttg cttcatatta atctgagtgg aaaataaaag ggccctcttc 120
tcctctcgct tccctgccgg gcaggcgcca tggcggaagc tcggcgacgg gcgcctgcgg 180
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cttctcgaac taccggccct tcgagcccca ggcgttgggc ctcagcccga gctggcggct 300
gacgggcttc tccggcatga agggctgagg ctgcaaggtc ccgcagaggc gctgctcaaa 360
ctcctggcgg gactgamcgg gccggacktk cggccccgct gggccggggc ctkgtkggtk 420
gccargaara agcgtcccag gaagccggcc tgccggcaag agcgggcccc agcc 474

<210> 24
<211> 2280
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (13)
<223> n equals a,t,g, or c

<400> 24
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agtagccgcc gccggagccg cgcgcarcca tggccgagaa ccccagcttg gagaaccacc 120
gcatcaagag cttcaagaac aagggccgcg atgtggaaac aatgcgaaga catagaaatg 180
aagtgacagt ggaactgcgg aagaacaaaa gagatgaaca cttattgaaa aagagaaatg 240
ttccccaaga agaaagtcta gaagattcag atgttgatgc tgattttaaa gcacaaaatg 300

taaccctaga agctatattg cagaatgcca caagtgataa cccagtggtc caattgagtg 360
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taaaatctgg gattttacca attctagtca aatgtctaga aagggatgat aatccttcat 480
tacagtttga agctgcttgg gcattaacta acatagcatc aggracttct gcacagactc 540
aagctgttgt gcagtctaat gcagtacctc tttttctgag acttcttcgt tcaccacatc 600
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gtagagatta tgtcatatca ctgggagttg tcaaacctct tctgtccttc atcagtccct 720
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atggaggtaa tgaacagata cagatggtta ttgattcagg agttgtgccc tttcttgtgc 960
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ccaacataac agcaggcaac cagcaacaag ttcaagctgt aatagatgct ggattaattc 1200
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aagacatata taaattagca tttgaaatca tagatcagta tttctctggt gatgatattg 1560
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cagccaacct tcaaacaaaa gaatttaatt tttaaattca gttgagtgca gcatctttcc 1680
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aatgattttc attggtggaa ctgacacaaa aaaagtaact taaaaacaag aaacttggtt 2220
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<210> 25
<211> 1061
<212> DNA
<213> Homo sapiens

<400> 25
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atggcaggct ctgaagagct ggggctccgg gaagacacgc tgagggtcct agctgccttc 180
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gagaaggaag ccatactgcg gaggctggtg gccctgctgg aggaggaggc agaagtcatt 540
aaccagaagc tggcctcgga ccccgccctg cgcacaagct ggtccgcctg tcctccgact 600
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catgccccgg gcccccgcct ccttccccgg agcccctggc ccgcctggcc ctagccatgg 720
agctgagccg gcgcgtggcc gggctggggg gcaccctggc cggactcagc gtggagcacg 780
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<210> 26
<211> 1572
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (19)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (28)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1491)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1527)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1555)
<223> n equals a,t,g, or c

<400> 26
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gggcagctgc ggacatgtcg accccggccc ggaggaggct catgcgggat ttcaagcggt 180
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tcatgcccca gtattaggca atggaattag gttgcattgg gtttgaggaa ngggcacatt 1500
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tggccatggc ct 1572

<210> 27
<211> 2005
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (1976)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1977)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1978)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1979)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1986)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1988)
<223> n equals a,t,g, or c

<400> 27
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accctgaaga tatttagaga tggtgaagaa gcaggtgctt atgatggacc taggactgct 480
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gaggaagaat ttaagaaatt cattagtgat aaagatgcct ctatagtagg ttttttcgat 600
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taccgatttg cacatacgaa tgttgagtct ctggtgaacg agtatgatga taatggagag 720
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cactgtttat ggaaatacca ggaccagttt atgtttgtgg ttttgggaaa aattatttgt 1860
gttgggggaa atgttgtggg ggtggggttg agttgggggt attttctaat tttttttgta 1920
catttggaac agtgacaata aatgagaccc ctttaaaaaa aaaaaaaaaa aaaaannnng 1980
gggggncncc cagtcccatt cgccc 2005

<210> 28
<211> 1408
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (11)
<223> n equals a,t,g, or c

<400> 28
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acacgtacga cgagtacaaa aagggcttcc tggaccaggc atctgggagt gcagtgctgc 180
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tgccgggcag tatgtccact cctccttttc aggatattta ttgtatccca tgtaaaaaca 300
aaaaaacaaa aaacaaagaa aagaaagaga ttttatagaa gaaaatgaca caccaaaaaa 360
tccaaatgaa aaacataatt gcttcaaaac acttacacag ttggaaagtt atatgtaagt 420
gaaaatttgg accattgtgt acaaataaaa actaagatgc atgtttaata ctccacacag 480
cagcctgtaa ttgcgaatga tgggatagag ttatgtatca agtactgaca cttggttgta 540
cccactggaa tcatattagc tgttttatgt tatatgcttc cacagtaacc tgcttattca 600
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gtttacttta aaatatttat aaatatgcct taaagaaata caaatgataa caattacata 720
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tatcagttat gcttatatag cattaaaaat tctcctcctt tgactacaca cacaaccaca 1320
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tctgtttagc atgtatgcaa actggata 1408

<210> 29
<211> 917
<212> DNA
<213> Homo sapiens

<400> 29
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ggaccatgtg cgcgtcccgg gacgactggc gctgtgcgct ccatgcacga kttttccgcc 180
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accaacgtgg cctcccagtg aggcaagacc gaagtaaact acactcagct cgtcgacctg 300
cacgcccgat acgctgagtg tggtttgcgg atcctggcct tcccgtgtaa ccagttcggg 360
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aagttcctca tcgacaagaa cggctgcgtg gtgaagcgct acggacccat ggaggagccc 600
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gagcccctgc ccacgcccty ggagccttcc accggcactc atgacggcct gcctgcaaac 720
ctgctggtgg ggcagacccg aaaatccagc gtgcaccccg ccggaggaag gtcccatggc 780
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<210> 30
<211> 577
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature

<222> (501)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (534)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (568)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (575)
<223> n equals a,t,g, or c

<400> 30
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ggtgactcac atctgtaatc ccagcacttt gggaggccaa ggcaggcaga acacttgaag 120
gagttcaaga ccagcgtggc caacgtggtg aaccctgtct ctactaaaaa tacaaaaatt 180
gtttagctct gtttttcata atagaaatag aaaaggtaaa attgcttttc ttctgaaaag 240
aacaagtatt gttcatccaa gaagggtttt tgtgactgaa tcagcagtgc ctgccctagt 300
catagctgtg cttcagaaac ctcagcatga ttagtgttkg agcmmaacaa ggragcaaag 360
caaatwcwgt ttttgaaatt ctatctgttg cttgaactat tttgtaataa ttaaactttg 420
gatgttgaga aatcacaact ttattggtac acttcattgc aacttgaaat tccatgggtc 480
ttaaagtgag attggaattc naatgggcgg cctttaaaaa gtaattccca accnttaagg 540
ttaaaaccca ggaaattggg gccaatcnaa aaccngg 577

<210> 31
<211> 2059
<212> DNA
<213> Homo sapiens

<400> 31
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gtcaaccatc tcatcattct ttccacctgg gtaccaagtc tctttctgct tggtgatggt 120
actccttttt gcagtggaca caggactata tttctctgtg aagacaaaca ttcgaagctc 180
aacaagagac tggaaggacc ataaatttaa atggagaaag gaccctcaag acaaatgacc 240
cccatcccat gggggtaata agagcagtag cagcagcatc tctgaacatt tctctggatt 300
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gtgcaaatgc tcccccagga agtgcagcaa gtgaggctgc tgcagctgca tgggtgcctg 1920
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aaaaaaaaaa aaaaaaaaa                                              2059
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<210> 32
<211> 549
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (337)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (378)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (497)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (537)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (546)
<223> n equals a,t,g, or c

<400> 32
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tctagaggat ccaagcttac gtacgcgtgc atgcgacgtc atagctcttc tatagtgtca 180
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gcccgcaccg attcgccctt tcccaacagt tgcgcanctg gaatggcgaa tggggacgcg 360
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acttgccagc gccctagcgc ccgctccttt cgctttcttc ccttcctttc tcgccacgtt 480
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<210> 33
<211> 841
<212> DNA
<213> Homo sapiens

<400> 33
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tcagctgaaa cttgtcttgt tttgccagga aaggaagtag ttgcctttgg tcatccatct 540
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agggatttat gagtgattgc tctacattat ttcttcaaag gaaaggaaag gaattgaaga 780
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a 841

<210> 34
<211> 863
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (19)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (29)
<223> n equals a,t,g, or c

<220>
<221> misc feature

<222> (44)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (58)
<223> n equals a,t,g, or c

<400> 34
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agcggagcca acatgccagt ggcccggagc tgggtttgtc gcaaaactta tgtgaccccg 180
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aatgccaaga agggccaggg tggggctggg gctggagacg acgaggagga ggattaagtc 720
cacctgtccc tcctgggctg ctggattgtc tcgttttcct gccaaataaa caggatcagc 780
gctttacaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 840
aaaaaaaaaa aaaaaaaaaa ttt 863

<210> 35
<211> 1230
<212> DNA
<213> Homo sapiens

<400> 35
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tcaggcagct gcagagcttc aacagtactg tatgcagaat gcctgcaagg atgccctgct 180
ggtgggtgtt ccagctggaa gtaacccctt ccgggagcct agatcctgtg ctttactctg 240
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attaatcatt tttctatgac agcaaaaaa 1230

<210> 36
<211> 640
<212> DNA
<213> Homo sapiens

<400> 36
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aacgaaagga acgcaagaac agaatgaaga aagtcagggg gactgcaaag gccaatgttg 480
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aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaagg 640

<210> 37
<211> 597
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (10)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (15)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (32)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (556)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (558)
<223> n equals a,t,g, or c

<220>

<221> misc feature
<222> (567)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (590)
<223> n equals a,t,g, or c

<400> 37
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ccgaggaagc taaggctgcg ttggggtgag gccctcactt catccggcga ctagcaccgc 120
gtccggcagc gccagcccta cactcgcccg cgccatggcc tctgtctccg agctcgcctg 180
catctactcg gccctcattc tgcacgacga tgaggtgaca gtcacggagg ataagatcaa 240
tgccctcatt aaagcagccg gtgtaaatgt tgagcctttt tggcctggct tgtttgcaaa 300
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tccagcagct ggtgctgcac cagcaggagg tcctgccccc tccactgctg ctgctccagc 420
tgaggagaag aaagtggaag caaagaaaga agaatccgag gagtctgatg atgacatggg 480
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aaaaaaaaaa aaaaancncg gggggnccg ctttaaaggg tccaagttan gtacggg 597

<210> 38
<211> 624
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (79)
<223> n equals a,t,g, or c

<400> 38
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gggtttttc tttgtattgc tgtt 624

<210> 39
<211> 1029
<212> DNA
<213> Homo sapiens

<400> 39
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atctttctg 1029

<210> 40
<211> 1107
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (1098)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1106)
<223> n equals a,t,g, or c

<400> 40
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gaaaactgcg agccagcatt acccccggga ccattctgat catcctcact ggacgccaca 180
ggggcaaggt gagagtacct gtgcttgggg cgcttcactg cagctgcctg gggtgcctgg 240
tggcaatgcg tttgcacgct aggtgtactt ttcctttatt tacctatgtt tggggcaagg 300
ggaaatgatc tgcaagatac aacttagttg ttgcaaataa gaagtgtaat ccatggtgat 360
ttattagcca tttcctgctg ttgatwatgt tacacatgty catttactca aaaacgtgtt 420
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agcccagaca ccaggaaggt gagatcttcg acacagaaaa agagaaatat gagattacgg 840
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acaaattggt gttctaaatg tcttaagaac ctaattaaat agctgactac aaaaaaaaaa 1020

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gggcccggtt cccatttngc cctttng 1107

<210> 41
<211> 1051
<212> DNA
<213> Homo sapiens

<400> 41
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agaacaaata ttcggtgctt ttacctacct acaacgagcg cgagaacctg ccgctcatcg 120
tgtggctgct ggtgaaaagc ttctccgaga gtggaatcaa ctatgaaatt ataatcatag 180
atgatggaag cccagatgga acaagggatg ttgctgaaca gttggagaag atctatgggt 240
cagacagaat tcttctaaga ccacgagaga aaaagttggg actaggaact gcatatattc 300
atggaatgaa acatgccaca ggaaactaca tcattattat ggatgctgat ctctcacacc 360
atccaaaatt tattcctgaa tttattagga agcaaaagga gggtaatttt gatattgtct 420
ctggaactcg ctacaaagga aatggaggtg tatatggctg ggatttgaaa agaaaaataa 480
tcagccgtgg ggccaatttt ttaactcaga tcttgctgag accaggagca tctgatttaa 540
caggaagttt cagattatac cgaaaagaag ttctagagaa attaatagaa aaatgtgttt 600
ctaaaggcta cgtcttccag atggagatga ttgttcgggc aagacagttg aattatacta 660
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tatgaagacc acctatttta tatttcaaat taaataattt taaagttgct ggcctaatga 960
gcaatgttct caattttcgt tttcattttg ctgtattgag acctataaat aaatgtatat 1020
tttttttgc ataaarwaaa aaaaaaaaac c 1051

<210> 42
<211> 2192
<212> DNA
<213> Homo sapiens

<400> 42
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gctggacccc ctggccccat tggtaatgtt ggtgctcctg gagccaaagg tgctcgcggc 120
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<210> 43
<211> 353
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (37)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (348)
<223> n equals a,t,g, or c

<400> 43
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ccgggtcgac ccacgcgtcc ggtggggctt caccaagttc aatgctgatg aatttgaaga 120
catggtggct gaaaagcggc tcatcccaga tggctgtggg gtcaagtaca tccccagtcg 180
tggccctctg gacaagtggc gggccctgca ctcatgaggg cttccaatgt gctgcccccc 240
tcttaatact caccaataaa ttctacttcc tgtccaaaaa aaaaaaaaaa aaaaaaaaaa 300
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaanaa aag 353

<210> 44
<211> 3490
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature

<222> (782)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1311)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (2298)
<223> n equals a,t,g, or c

<400> 44
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tgtgccactt atgaagagtg ccccatgggg aaaaggagac tcagctgtcc cttggcagct 3060
tgtgccagta tcccagggca gaagtttcca caggagcctc ttgcccttgc gcagagccac 3120
tgtgagaggc ggtgggagcc aacacccttg ggggaggggg cagtactgct cggcacatcc 3180
cagcatcagg tcagatcayt gaaattaaaa aatgtgaatt aagttcatat ccaccttttg 3240
gggaagcagg acaaaccacc accccaccaa gtgtgtgact tctccatatc ccactgcagt 3300
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gtttgagacc ctgttactgt ttgaaaatgc atgcatgtta cgatgaatct ccaacctgag 3420
gaaaaaaata aaactcaaaa agctttgtgt aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 3480
aaaaaaacct 3490

<210> 45
<211> 781
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (750)
<223> n equals a,t,g, or c

<400> 45
gtcagatgtt ccttttccca aatcattatt cctttggcca gaaggttgga cttgatacct 60
tccagcagcc tggagcctca tggccaaacc aggtcctcag gcatcccagg atttccaggc 120
atcagatgga gggtgagggc tgcccagcaa atgtcagtgt gtgtcaacat ttactgcagg 180
ttcagagctc cctccagggt ccctgagtac atcatgtgct cctgagagtt ttaagggaaa 240
gccaagtaaa gacgtgatga tgttctaaac ccaagcaatt aataaaygcc acggaaatca 300
gtcattcact taccaagtat ttctctgctt tctgccatgt cacgggscca tgatcccctg 360
gagattgagg gaaataagat cacaggagct cccagtctga gtgagaaaag gcagctgctc 420
tgtggtactg tgcactggac ctgggaatgg cctaaggaga caagcattga gggctgagct 480
cagaagccag ggagaagagc tcagaacccc aggagaggag ctcagaaccc tgggagagga 540
gctcagaacc ctgggagggc ttggtaacct tcgaggatgt ggccgtggag ttcacccagg 600
aggagtgggc gttgctggac cctgcccaaa ggacactgta cagggatgtg atgctggaga 660
actgcaggac ctggcctcac targgtgtcg tgttaataaa cccagtctga tatcccagtt 720
ggamcaagac aagaagktgg tgacagaggn aagaggaatc taccaagcac ctgtccagat 780
t 781

<210> 46
<211> 1431

<212> DNA
<213> Homo sapiens

<400> 46
gggtcgaccc acgcgtccgc ttcagagaag aatttctctt tagttctttg caagaaggta 60
gagataaaga cacttttca aaaatggcaa tggtatcaga attcctcaag caggcctggt 120
ttattgaaaa tgaagagcag gaatatgttc aaactgtgaa gtcatccaaa ggtggtcccg 180
gatcagcggt gagcccctat cctaccttca atccatcctc ggatgtcgct gccttgcata 240
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acaatgcaca gcgtcaacag atcaaagcag catatctcca ggaaacagga aagcccctgg 360
atgaaacact gaagaaagcc cttacaggtc accttgagga ggttgtttta gctctgctaa 420
aaactccagc gcaatttgat gctgatgaac ttcgtgctgc catgaagggc cttggaactg 480
atgaagatac tctaattgag attttggcat caagaactaa caaagaaatc agagacatta 540
acagggtcta cagagaggaa ctgaagagag atctggccaa agacataacc tcagacacat 600
ctggagattt tcggaacgct ttgctttctc ttgctaaggg tgaccgatct gaggactttg 660
gtgtgaatga agacttggct gattcagatg ccagggcctt gtatgaagca ggagaaagga 720
gaaaggggac agacgtaaac gtgttcaata ccatccttac caccagaagc tatccacaac 780
ttcgcagagt gtttcagaaa tacaccaagt acagtaagca tgacatgaac aaagttctgg 840
acctggagtt gaaaggtgac attgagaaat gcctcacagc tatcgtgaag tgcgccacaa 900
gcaaaccagc tttctttgca gagaagcttc atcaagccat gaaaggtgtt ggaactcgcc 960
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gagattatga gaaaatcctg gtggctcttt gtggaggaaa ctaaacattc ccttgatggt 1140
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agtttcttca acaggattac agtgtagcta cctacatgct gaaaaatata gcctttaaat 1260
catttttata ttataactct gtataataga gataagtcca ttttttaaaa atgttttccc 1320
caaaccataa aaccctatac aagttgttct agtaacaata catgagaaag atgtctatgt 1380
agctgaaaat aaaatgacgt cacaagacaa aaaaaaaaaa aaaaaaaaaa a 1431

<210> 47
<211> 1913
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (43)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1878)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1896)
<223> n equals a,t,g, or c

<220>
<221> misc feature

<222> (1905)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1907)
<223> n equals a,t,g, or c

<400> 47
cccacgcgtc cggccagctc attgctctta tagcctgtga ggnagraaga aacatttgcy 60
agccaggcta gtgacagaaa tggattcgaa ataycagtgt gtgaagctga atgatggtca 120
cttcatgcct gtcctgggat ttggcaccta tgcgcctgca gaggttccta aaagtaaagc 180
tytagaggcc rycaaattgg caatwgaagc yggsttccrc catattgatt ctgcwcatkt 240
wtacaataat gaggagcagg ttggactggc catccgaagc aagattgcag atggcagtgt 300
gaagagagaa gacatattct acacttcaaa gctttggwgc aattcccatc gaccagagtt 360
ggtccgacca gccttggaaa ggtcactgaa aaatcttcaa ttggattatg ttgacctcta 420
ycttattcat ttttccagtgt ctgtaaagcc aggtgaggaa gtgatcccaa aagatgaaaa 480
tggaaaaata ctatttgaca cagtggatct ctgtgccacr tgggaggccg tggagaagtg 540
taaagatgca ggattggcca agtccatcgg ggtgtccaac ttcaaccrca ggcagctgga 600
gatgatcctc aacaagccag ggctcaagta caagcctgtc tgcaaccagg tggaatgtca 660
tccttacttc aaccagagaa aactgctgga tttctgcaag tcaaaagaca ttgttctggt 720
tgcctatagt gctctgggat cccaycgaga agaaccatgg gtggacccga actccccggt 780
gctcttggag gacccagtcc tttgtgcctt ggcaaaaaag cacaagcgaa ccccagccct 840
gattgccctg cgctaccagc trcagcgtgg ggttgtggtc ctggccaaga gctacaatga 900
gcagcgcatc agacagaacg tgcaggtgtt tgaattccag ttgacttcag aggagatgaa 960
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gcctctggtt aaatctctcc tgcttggyga yttcagyaag ctacagcwaa gcccatyggc 1200
crgaaargaa agacaataat tttgtttttt catttgaaa aaattaaatg ctctctccta 1260
aagattcttc acctactttc gtctccataa cttctatgtt ttctttcctt ctgacacact 1320
agtgccccta aattgtgatt tgcctatacg tttagggccg gggttggaag atgttaacaa 1380
ccatttaaga ttcatttctg cagtgggagt gggtggagtt tcaccctctg ggaaaggggc 1440
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gatggagtct agaggatgag cgatattgac tagcaattca tggctccct ccagcagtgc 1560
gagggtcaga gtttctggag ccttgggagg aggcatccct gtgagggggg gttagggaga 1620
tgggagggca ccaggaaaag tgattagaag tcaggtatgg gaaggctaaa taggacagag 1680
tcgagtacat ctctgcttgg aaaaacatat caacaccctt ttttttgaa cattatatct 1740
tgttcataaa agaaaacttt ccacattgtt ttaacaaacc ccacagctgg agagttcagg 1800
cctggaatct ttggatgtgt gcccagttca cagattggac cctattggtt tgtggtgggg 1860
ccagggcatc caaagacntc attggactaa ttcacnttcc cccgnanagc ccc 1913

<210> 48
<211> 1761
<212> DNA
<213> Homo sapiens

<400> 48
cgaggagctc tgaggtctat gctcagctgt gcaacgtggc tcgcattgag gcagagcggg 60
aggccggggt ccacttccgg ccaggctatg agtatggccc cgggcccgat gacctgcact 120
acagcatcta tggcccagat ggggccccct tctacaacta cctgggcccc gaggacaccg 180

tccctgagcc tgccttcccc aacacagccg gtcactcagc ggaccgcaca cccatccttg 240
agtctccttt gcagccctca gaactccagc cccactacgt ggccagccat ccagagcccc 300
cagccggctt cgaagggctt caggcggagg agtgcggcat cctgaacggc tgtgagaatg 360
gccgctgtgt gcgcgtgcgg gagggctaca cctgtgactg ttttgagggc ttccagctgg 420
atgcggccca catggcctgc gtagatgtga atgagtgtga tgacttgaac gggcctgctg 480
tgctctgtgt ccatggttac tgcgagaaca cagagggctc ctaccgctgc cactgctccc 540
cgggatatgt ggctgaggca gggcccccc actgcactgc caaggagtag cagtcagggg 600
tcagtgtggc aactacctgg aaatggcctc cagtcacagg caggggcctt gaggatgatt 660
tcctagctgg gaagacaccg tgacatcagg ccagaggttt ccaatcagcc ttgcctgctt 720
tcatctctcc cagcttagcc tctggctgta agcttcggtc attgcctcca tgcccttgct 780
tggctcaagc accaccaatc gctttaatgc ttcagccacc gcatgaggcc ctgtccacca 840
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gcaccagcag caagggctgc catgggatac agyacccatc tacaaagacc tctattacat 1440
aaacactgct tcttacagga aacaaacctc ttctgggatc tccttttgtg aaaaccagtt 1500
tgatgtgcta aaagtaaaaa gtctattttc cagtgtggtc ttgttcagaa gcagccagat 1560
ttccaatgtt gtttttcccc tccactcaga aacccctgcc ctttcccttc agaaaacgat 1620
ggcaggcatt cctctgagtt tacaagcaga gactcactcc aacccaaact agctgggagt 1680
tcagaaccat ggtggaataa agaaatgtgc atctggtcaa aaaaaaaaaa aaaaaaaaaa 1740
aaaaaaaaaa aaaaaaaaag g 1761

<210> 49
<211> 956
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (37)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (352)
<223> n equals a,t,g, or c

<400> 49
tgcaggagtt cggcacgagg gtatttagag cgcaggnctg acgggccgga tcgccttcgc 60
cgccgcccgc ccgcaaacct tcgtgcccgg cccgtcctcg cccccgcctc cgccaccgcc 120
tcggcccgca gagcttgccc cctcccccacc cgcagacatg tccgagtcca agagcggccc 180
cgagtatgct tcgtttttcg ccgtcatggg cgcctcggcc gccatggtct tcagcgccct 240
gggcgctgcc tatggcacag ccaagagcgg taccggcatt gcggccatgt ctgtcatgcg 300
gccggagcag atcatgaagt ccatcatccc agtggtcatg gctggcatca tngycatcta 360
cggcctggtg gtggcagtcc tcatcgccaa ctccctgaat gacgacatca gcctctacaa 420

gagcttcctc cagctgggcg ccggcctgag cgtgggcctg agcggcctgg cagccggctt 480
tgccatcggc atcgtggggg acgctggcgt gcggggcaac gcccagcagc cccgactatt 540
cgtgggcatg atcctgattc tcatcttcgc cgaggtgctc ggcctctacg gtctcatcgt 600
cgccctcatc ctctccacaa agtagaccct ctccgagccc accagccaca gaatattatg 660
traagaccac ccctcctcat cgcccctcca ggcccccggc gccccacccc ctagagtgct 720
ctgtgtatgc ggatgattta gaattgtcat ttctctttac tggatgttta tttataaaga 780
tctggcctgt tcctgcgtct gcggagcggc ccttgtctcc cagctatcta taaccttagc 840
tagagtgtcg ccttgtgggt tcctgttgct gagacttcct ggatggagcc gccctcaccg 900
wmcgkcccgt ggccctgcgc ggagctgtgt ccaataaagt tcttggatgt gaaaaa 956

<210> 50
<211> 563
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (510)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (519)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (530)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (558)
<223> n equals a,t,g, or c

<400> 50
cggacgcgtg ggcgccctcc gaatccagag aggcgctgct gacaccgccg ccacaccgcc 60
gccacaccgc cgctgcctca gtcatgccga agcacgagtt ctctgtggac atgacctgtg 120
gaggctgtgc tgaagctgtc tctcgggtcc tcaataagct tggaggagtt aagtatgaca 180
ttgacctgcc caacaagaag gtctgcattg aatctgagca cagcatggac actctgcttg 240
caaccctgaa gaaaacagga aagactgttt cctaccttgg ccttgagtag caggggcctg 300
gtccccacag cccacaggat ggaccaaagg gggcaggatg ctgatcctcc cgctggcttc 360
cagacagacc tgggacttgg cagtcatgcc gggtgatggt gttcctgcgg agaccctcag 420
ttgtcctatt ccttcctagc ttccctgcaa taaaatcaag ctgcttttgt tggaaaaaaa 480
aaaaaaaaaa gggggcgtct aaaaaccaan ttatttccnt gatgaaatcn acctctttgt 540
tcccattcat ccggcctnaa aaa 563

<210> 51
<211> 3215
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (3196)
<223> n equals a,t,g, or c

<400> 51
gcctcgggtg gggtgggagc gggggggaca gtgccccggg aacccggtgg gtcacacaca 60
cgcactgcgc ctgtcagtag tggacattgt aatccagtcg gcttgttctt gcagcattcc 120
cgctcccttc cctccatagc cacgctccaa accccagggt agccatggcc gggtaaagca 180
agggccattt agattaggaa ggtttttaag atccgcaatg tggagcagca gccactgcac 240
aggaggaggt gacaaaccat ttccaacagc aacacagcca ctaaaacaca aaaaggggga 300
ttgggcggaa agtgagagcc agcagcaaaa actacatttt gcaacttgtt ggtgtggatc 360
tattggctga tctatgcctt tcaactagaa aattctaatg attggcaagt cacgttgttt 420
tcaggtccag agtagtttct ttctgtctgc tttaaatggr aacagactca taccacactt 480
acaattaagg tcaagcccag aaagtgataa gtgcagggag gaaaagtgca agtccattat 540
gtaatagtga cagcaaaggg accaggggag aggcattgcc ttctctgccc acagtctttc 600
cgtgtgattg tctttgaatc tgaatcagcc agtctcagat gccccaaagt ttcggttcct 660
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tgtgtcagaa aaaggaaacc acagtgagcc tgagagagac ggcgattttc gggctgagaa 780
ggcagtagtt ttcaaaacac atagttaaaa aagaaacaaa tgaaaaaaat tttagaacag 840
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ctcatgtttt ttcctttttca catttttaaa agaacaatga caaacaccca cttatttttc 960
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atttccctgg tagtgtagct gtgtggcttt ccttcctgaa gagtccgtgg ttgccctaga 1140
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cctgagatac ttcccaaagc ccttatgttt aatcagcgat gtatataagc cagttcactt 1440
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gtccctctgg gccaatgctt atacccagtg aggatgctgc agtgaggctg taaagtggcc 1620
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tccagtatga aaatcagcat gcccgcctag ttacctaccg gagagttatc ctgataaatt 1740
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atactgtgaa aatgttttac attccatttc atttgtgttg ttttttaac tgcattttac 3060
cagatgtttt gatgttatcg cttatgttaa tagtaattcc cgtacgtgtt cattttattt 3120
tcatgctttt tcagccatgt atcaatattc acttgactaa aatcactcaa ttaatcaawa 3180
aaaaaaaaaa aaaccncggg gggggcccg gaacc 3215

<210> 52
<211> 626
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (571)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (572)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (573)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (618)
<223> n equals a,t,g, or c

<400> 52
cagtttgtgt attgcggcaa gaaggcccag ctcaacattg gcaatgtgct ccctgtgggc 60
accatgcctg agggtacaat cgtgtgctgc ctggaggaga agcctggaga ccgtggcaag 120
ctggcccggg catcagggaa ctatgccacc gttatctccc acaaccctga gaccaagaag 180
acccgtgtga agctgccctc cggctccaag aaggttatct cctcagccaa cagagctgtg 240
gttggtgtgg tggctggagg tggccgaatt gacaaaccca tcttgaaggc tggccgggcg 300
taccacaaat ataaggcaaa gaggaactgc tggccacgag tacggggtgt ggccatgaat 360
cctgtggagc atccttttgg aggtggcaac caccagcaca tcggcaagcc ctccaccatc 420
cgcagagatg cccctgctgg ccgcaaagtg ggtctcattg ctgcccgccg gactggacgt 480
ctccggggaa ccaagactgt gcaggagaaa gagaactagt gctgagggcc tcaataaagt 540
ttgtgtttat gccaaaaaaa aaaaaaaaaa nnngggggc cgctttarag rwtcctccaa 600
ggggccaact tacccttnca tgcaaa 626

<210> 53
<211> 920

<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (617)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (621)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (725)
<223> n equals a,t,g, or c

<400> 53
atgagggctc ggctacagca agaagtagag gagcagctca aaaagaaatg tttcactctg 60
ctctgctact atgatcccaa ttcagatgct gacagtgaaa ccgtgaaggc agcaaaggtg 120
tggaaactcg cagagtcctg gtgggtgagc agcagcagtg ccasgatgcc aagagccagc 180
agaaggagca gatgttgctg ctggagaaka agagtgctgc ttactcccag gtgcttctcc 240
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tagaccgcat caatgcccag tacctggaag tcaagtgcgg tgctatgatc cttaagctga 360
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<210> 54
<211> 1090
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (1024)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1034)
<223> n equals a,t,g, or c

<400> 54
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aaacatatac 1090

<210> 55
<211> 1464
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (766)
<223> n equals a,t,g, or c

<400> 55
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gacgctctca gctctcggcg cacggcccag cttccttcaa aatgtctact gttcacgaaa 120
tcctgtgcaa gctcagcttg gagggtgatc actctacacc cccaagtgca tatgggtctg 180
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tgaagtcagc cttatctggc cacctggaga cggtgatttt gggcctattg aagacacctg 420
ctcagtatga cgcttctgag ctaaaagctt ccatgaaggg gctgggaacc gacgaggact 480
ctctcattga gatcatctgc tccagaacca accaggagct gcaggaaatt aacagagtct 540
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cataaacaga tgaataaact gaatttgtac tttaraaaaa aaaaaaaaaa aactyrgggg 1440
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<210> 56
<211> 985
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (647)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (875)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (962)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (973)
<223> n equals a,t,g, or c

<400> 56
agaagttgct agtgttcaat gcagctgggg tgaaacccca ggggcaaggt ggctggcttt 60
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gactggagga tcttgtaccc agagattccc cgtaagctcc gagagctgga agccgagggc 180
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cnccccgggg atngcacccc ctgga 985

<210> 57
<211> 1246
<212> DNA
<213> Homo sapiens

<400> 57
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<210> 58
<211> 1966
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (1926)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1942)
<223> n equals a,t,g, or c

<400> 58
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atctagcccc cattttcagg tggcagaaag agcactctat tattggaata atgaatacat 240
catgagtttg atagargaaa actctaacgt catccttccc atcatgtttt ccagccttta 300
taggatttca aaagaacatt ggaatccggc tattgtggcg ttggtgtaca atgtgttgaa 360
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tcgtcagcgt gagaaaaaga aagaaaagga gcgtgaagaa ttgtggaaaa aattggagga 480
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caaaggtgca tcgtgaccaa attgtttaaa aaaaaaaaac aaaaaaaaca aaatctaggg 1860
ctgtatttta tatatatata tatatatata tatatatata tatatatata tatatatgtc 1920
cttatnggac tctctgcttt gntatttaaa taaaaaatct tacatc                1966
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<210> 59
<211> 1611
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (7)
<223> n equals a,t,g, or c

<400> 59

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gctgctagag aagccyctat ttatactgga atcacactgt cagagtactt ccgtgacatg 180
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<210> 60
<211> 1849
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (100)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (977)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1846)
<223> n equals a,t,g, or c

<400> 60
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<210> 61
<211> 233
<212> DNA
<213> Homo sapiens

<400> 61
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<210> 62
<211> 2333
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (3)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (6)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (7)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (14)

<223> n equals a,t,g, or c

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<222> (2327)
<223> n equals a,t,g, or c

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<221> misc feature
<222> (2331)
<223> n equals a,t,g, or c

<400> 62
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tcaattagct taaataagtt gctttgttat attttatttg aattgaacta cgctaggcct 2280

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<210> 63
<211> 1470
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (1410)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1414)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1419)
<223> n equals a,t,g, or c

<400> 63
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<210> 64
<211> 939

<212> DNA
<213> Homo sapiens

<220>
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<222> (3)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (4)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (11)
<223> n equals a,t,g, or c

<400> 64
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gcagctggcg tggctgtggg ctctgctgtg gggcacacat tgggtcacgc cattactggg 360
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cagggaaccc agccagcaca gcagcagcag ccttgcctct atgagatcaa acagtttctg 480
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cagtgccgac ttgcaaacgg attggcctaa tgaagaagtt caacctggag agatggaaaa 600
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tgtaaccatc agttaaacct ctcctgtcat tcctagcttc cttgcttcag aattgaaatg 720
gaagtggggg tgtccctact ctgtagaatc tgggactggg caaatgtttg tgtggcctcc 780
ttaaactagc tgttatgtta tgattttatt ctttgtgagt taattagaat aaagtcattt 840
tcttccaagg tatggttcat ttagtctata gtctctggtt atgaaattag catcctccca 900
gatctgacag ctccctgagg ggttatataa ggagtagct 939

<210> 65
<211> 2068
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (308)
<223> n equals a,t,g, or c

<400> 65
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cgggcagcag gctcctgact acaggtccat tctgagcatt agtgacgarg cagccagggc 120
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gcagacgtgg acgcgttcag gcagctctcg gccccgcccg ctgaccccca gctcttccac 240

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tgggacccas catgcagact ccacctttac aacagcctca ccaggaacaa ggaagtgttc 420
atacctcaag atgggaaaaa ggtgacgtgg tattgctgtg ggccaaccgt ctatgacgca 480
tctcacatgg ggcacgccag gtcctacatc tcttttgata tcttgagaag agtgttgaag 540
gattacttca aatttgatgt cttttattgc atgaacatta cggatattga tgacaagatc 600
atcaagaggg cccggcagaa ccacctgttc gagcagtatc gggagaagag gcctgaagcg 660
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acagagccac ttgagaaagc tgtgcagtcc agactcacgg gagaggaagt caacagctgt 840
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<210> 66
<211> 1391
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (1)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (16)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (20)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (25)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (27)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1343)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1358)
<223> n equals a,t,g, or c

<400> 66
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gggggagag ggtccagcat tttttaaatg ttttcacatc gtgtgttcca aaaataactg 120
gttagcctaa gtcacttcca ccctccaatg ttgtgaatgc agtctctagc attcgctatt 180
taatgtcttc ttcctgcact atttgagaaa tcgcgaggtc gacttaatac cgcagtcgcc 240
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ccccgccgtg ggaacggcct gacagtcact cgtcaaagga agtggctgcc ggcagctctt 420
gacccggaat cggatcctag tcccaccccc tccgctccag gcttccttct gcaacaggcg 480
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aggattccac ccaggcaacc acacaacaag cccagctggc ggcagcagct gaaatcgatg 720
aagaaccagt cagtaaagca aaacagagtc ggagtgaaaa gaaggcacgg aaggctatgt 780
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<210> 67
<211> 659
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (139)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (475)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (585)
<223> n equals a,t,g, or c

<400> 67
gcaaggctgc tgctatgggg ccgggcggcg tgtggcgcgg ctgctcgccc cactaatgtg 60
gcgcagggcg gtttcctcgg tggcggggtc cgcggttgga gccgagcccg ggcttcggct 120
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cgagggacgc ccagaatcgg acgcggcaga tcatactggt cccaagtttg acatcgatat 300
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tggattcatt tgaatgcttc cagaaaacca gagaaatcta tgganttaga gaaattatgg 600
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<210> 68
<211> 2981
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (2858)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (2948)
<223> n equals a,t,g, or c

<400> 68
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gaaacttact tgaagaagat tcctggattt tgtgaagggg gatttaaaat ccatgaggct 360

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<210> 69
<211> 603
<212> DNA
<213> Homo sapiens

<220>

<221> misc feature
<222> (584)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (590)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (595)
<223> n equals a,t,g, or c

<400> 69
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gccgccattt catctgtcct cattctctgc gcctttcgca gagcttccag cagcggtatg 120
ttgggccaga gcatccggag ttcacaacct ctgtggtccg tagagccact atgaggaggg 180
ccctgggaag aatttgccat tttcagtgkg taaggggcac ggcttcgttg ggggaggggg 240
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agc 603

<210> 70
<211> 1101
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (195)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1080)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1081)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1090)
<223> n equals a,t,g, or c

<400> 70
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attaagtgat agcctactta tggatcctgg agaattcttc agaaatccat gtgtaactca 120
ggtgcctatt tggttatgac aaaagatatg gctaattttt attttgaaaa gtttgaataa 180
acttagtttt ctctntttcc acttgcaaag agttttgatg atggagacta ttttcctgtg 240
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agcagaatgt tccagaattt tcctactgag ttgttgctgt cattagcagt agaacctctg 420
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aagaagtttt tcaatgtctt aactacaaat acagatggca agattgagtt tatttcaaca 540
atggaaggat ataagtatcc agtatatggt gtccagtggc atccagagaa agcaccttat 600
gagtggaaga atttggatgg catttcccat gcacctaatg ctgtgaaaac cgcattttat 660
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gaagaggaga aagcattgat ttatcagttc agtccaattt atactggaaa tatttcttca 780
tttcagcaat gttacatatt tgattgaaag tcttcaattt gttaacagag caaatttgaa 840
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gattcttttc tataatgtgc ctggctctga ttcttcattc tgtatgtgac tatttatata 960
acattagata attaaatagt gagacataaa tagagtgttt ttcatggaaa agccttctta 1020
tatctgaaga ttgaaaaaaa taaatttact gaaatacaaa aaaaaaaaaa aaaaaaaatn 1080
nctcggtcgn caagggaatt c 1101

<210> 71
<211> 714
<212> DNA
<213> Homo sapiens

<400> 71
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gacagtgttc caggcactta cagaaaagtg gtggctgctc gagcccccag aaaggtgctt 180
ggttcttcca cctctgccac taattcgaca tcagtttcat cgaggaaaga gcatgtcctt 240
tgcaacctga tcacacaaat gatgaaaaag aatagaactt tctcattcat ctttgaataa 300
cgtctccttg tttaccctgg tattctagaa tgtaaattta cataaatgtg tttgttccaa 360
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ataatgcatt gtttggtttc ttttaccaaa ttaagtgtct agttcttgct aaaatcaagt 540
cattgcattg tgttctaatt acaagtatgt tgtatttgag atttgcttag attgttgtac 600
tgctgccatt tttattggtg tttgattatt ggaatggtgc catattgtca ctccttctac 660
ttgctttaaa aagcagagtt agatttttgc acattaaaaa attcagtatt aatt 714

<210> 72
<211> 2890
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (555)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (2853)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (2882)
<223> n equals a,t,g, or c

<400> 72
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gtcttcatca gcatcggttc tgccctgggc ttcaaatacc cggtggggaa caaccagacg 180
gcggtccagg acaacgtgaa ggtgtcgctg gccttcgggc tgagcatcgc cacgctggcg 240
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<210> 73
<211> 2488
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (277)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (446)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (2382)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (2412)
<223> n equals a,t,g, or c

<400> 73
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agagacaggg tttcgccatc ttggccaggc tggtctcaaa ctcctgacct ctggtgatcc 180
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tcttctgggt gtggctgctg gttgcaggaa cccaaggcgt gaacgatggt gacatgcggc 360
tggccgatgg gggcgccacc aaccagggcc gcgtggagat cttctacaga ggccagtggg 420
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gsggccgctc tngaggatcc ctcgaggggc ccaagcttac gcgtgcatgc gacgtcatag 2460
ctctctccct ataatggaat cgtattat 2488

<210> 74
<211> 711
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (696)
<223> n equals a,t,g, or c

<400> 74
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acactatcta tgtaaaattc aaaactggaa aagtataaag ggtacagaga gacacctgcc 120
tcccaccgat gtccctcagc ttccacttac cctccaggag aatgaagaat ccctccattg 180
ttggagtcct gtgcacagat tcacaaggac ttaatctggg ttgccgcggg accctgtcag 240
atgagcatgc tggagtgata tctgttctag cccagcaagc agctaagcta acctctgacc 300
ccactgatat tcctgtggtg tgtctagaat cagataatgg gaacattatg atccagaaac 360
acgatggcat cacggtggca gtgcacaaaa tggcctcttg atgctcatat ctgttcttca 420
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ttgaagcagc aggtccaggt cactttgtat atagaatttt gctgtattca ataaatctgt 660
ttggaggaaa aaaaaaaaaa aaaaaattac tgcggnccga caagggaatt c 711

<210> 75
<211> 906
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (1)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (4)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (362)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (889)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (894)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (897)
<223> n equals a,t,g, or c

<400> 75
nctncccata accatgttcc catgtgggtg gtcgatgggg ctgcagaagg ccgggaggag 60
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tgcccctctg agcctcagtc ttctgccagt gacgcaggga gacggcactg actgcctccc 180
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gaggaagacg gggcgctggt gtccaagctc ctggagacca tgcatctaac cggtgccgac 300
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gccgccacaa gacggccgag gccacgggaa gccgacgggg gcggacggna aggnagnttt 900
cttaca 906

<210> 76
<211> 271
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (36)
<223> n equals a,t,g, or c

<400> 76
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tcagccagga gaatatcatt aaaagaggga gaagggaaaa cagacttttt gtgtggtaca 120
aaaacaaaac cctctgtatc attatgtgaa caacggtgca aaaaagagga gacacagttt 180
acccatgggt agctaactat gatagtgaaa gttgccttga accttgtttt agaaaaatgg 240
caagtgtggg tctcactctt ctagttcctg a 271

<210> 77
<211> 673
<212> DNA
<213> Homo sapiens

<400> 77
ttcggcacga gggtgaccag cggcgggtca cgtgacgcgg tgcctggcgc cgagcctccc 60
aagatggcgg tgtgcatcgc ggtgattgcc aaggagaatt accccctcta cattcgcagc 120
acccctacgg agaacgagct gaagttccac tacatggtgc acacatctct ggacgtggtg 180
gatgagaaga tctccgcaat ggggaaggcc ctggtcgacc agagggagct gtacctgggc 240
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gaccgcatcc agtccagggc ctttgataac atggtgacgt cgatgatgat acaggtgtgc 480
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cggtctgttc tggttgcctc ttcctgaatg ggacgcctgg ggctttcagg gcaggcagct 600
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gggggggcc cgg 673

<210> 78
<211> 367
<212> DNA
<213> Homo sapiens

<400> 78
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cctctcaaat ctactcagtc aaaagatttt atgcttcaat ttggtcatat gttaagagtt 120
tagcttctaa actgatacct cagtagccca tagtttaaag gagtaaagag tacatggatg 180
cttttggtac tactcagaag ctctgagttt ctgggccact gaaaccctga aaagtagcta 240
aatacgttca cttgctattt taatccatca ctgtagatat gactcagtcc ctttgttatt 300
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ttttctc 367

<210> 79
<211> 1344
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (1319)
<223> n equals a,t,g, or c

<400> 79
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ccctgctgga cagcggtcgc atgcagctcc tatgaggccc ctgccgccgg tcggcgatgt 120
ccggctggag ctgtcgcctc cgccgccgct gctgccggtg ccggttgtga gcgggtctcc 180
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ttttgacact gccagggtgg atcgtacccg gagctggctc tatgctgcct gttctatctc 480
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gaagaagtac ccgttggcca agtacctgtg tgtgctgtta attgtggctg gagtggccct 660
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ccgagggggg gcccggaacc caat 1344

<210> 80
<211> 3748
<212> DNA
<213> Homo sapiens

<400> 80
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gtttgtttga gtgaatcgga aaggaggcgc cggctgtggc ggcggcggga gctgctcgga 120
agctacacct cgcaagggct ccccccttc cccacccccct cccccgaccc ttttcccctc 180
cccgggccac ccagcccgcc caactcccag cggagagcaa ggttttcttc tgttttcata 240
gccagccaga acaatgttct acgcacattt tgttctcagt aaaagagggc ctctggccaa 300
aatttggcta gcggcccatt gggataagaa gctaaccaaa gcccatgtgt tcgagtgtaa 360
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<210> 81
<211> 1891
<212> DNA
<213> Homo sapiens

<220>
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<222> (1869)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1879)
<223> n equals a,t,g, or c

<400> 81
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<210> 82
<211> 1954
<212> DNA
<213> Homo sapiens

<400> 82
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atttatgggt attttttttc gaagttatta agcatattcc ttttccacga acctcttctg 180
tactttgatt gtaataggtt ggctcttaca cccattccaa atgcagttta tttttagacc 240
cgattgcaaa tagtgatgta gttttaacca gtatggatta gttcagggat gaactgctcc 300
ctccagcctt actggctctg atccacaggg ttttgttttg ttttgttttg tttttgttt 360
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tttccctgtt agaattcttt gcatttttgt gtttgtaaca gaaacgcctt aagacactat 480
gtttgggaat ataggaaact atgtgtgtcc caaggaaatc cctgtaaatt taactcacct 540
acaaaaggct ttttccccgc ctttggttgt taacggcatt cctgaaagcc acatgtgttt 600
attcattggg cttgttctta tcagcaaata ggttttctgg ttttatgact ttttgtctta 660
ttttatkttt cctacatttc ttttttttt tttttccytt agaatgccck ggraatatat 720
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accagtgaag ttttttagaa cctttagaag ggtggtcttt attcaggttt tactgtaatg 840
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aacttatttg tgtgactaat tgcctagatt gtaagctctt tgagggcagg gcttgtctct 1860
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aaatttatta tttgctatac tgaaaaaaaa aaaa 1954

<210> 83
<211> 936
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (895)

<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (930)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (936)
<223> n equals a,t,g, or c

<400> 83
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aatggattct ttgcccataa agtggagcac gaaagcagga cccagaatgg gaggagcttc 180
cagaggaccg gaacacttgc ctttgagcgg gtctacactg ccaaccagaa ctgtgtagat 240
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ttcgcccaaa agggggcgat taaatcccn ggccgn 936

<210> 84
<211> 1513
<212> DNA
<213> Homo sapiens

<400> 84
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ggagaagtca gagaactgtg gggttccaga ggatctgtta aatggtttga aggttacaga 180
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<210> 85
<211> 1298
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (3)
<223> n equals a,t,g, or c

<400> 85
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<210> 86
<211> 2009
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (1955)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1959)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (2008)
<223> n equals a,t,g, or c

<400> 86
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ttgatgatct ggatagagaa gatgaagtta gattactcaa atatctcttt actctaatcc 120
gtgctggaat gacagaagag gcacaacgac tctgtaaacg ctgtggtcaa gcatggagag 180
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<210> 87
<211> 534
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (466)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (477)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (526)
<223> n equals a,t,g, or c

<400> 87
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ctccttcgtc acttcctttt caggcagcga ggtgcccctg acccgntgtt ggggcanaag 480
tttgtgaagg gccttgggtt gacctggggg caaagccaag ttttgnttga gcaa 534

<210> 88
<211> 4302
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (1015)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (4270)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (4274)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (4296)
<223> n equals a,t,g, or c

<400> 88
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ggtggcacct ctccctttct ccacggacat cggacatcct caaaatcaga ctgtcaggtg 120
ggcagaagaa atccagacta gtagaccaca aaccataact gaacaagact ctaacaagaa 180
ttcttcaaca gcagaaatta acgaaacaac aacctcatct actgattttc tggctagagc 240
ttatggtttt gaaatggcca aagaatttgt tacatcagca ccaaaaccat ctgacttgta 300
ttatgaacct tctggagaag gatctggaga agtggatatt gttgattcat ttcacacttc 360
tgcaactact caggcaacca gacaagaaag cagcaccaca tttgtttctg atgggtccct 420
ggaaaaacat cctgaggtgc caagcgctaa agctgttact gctgatggat tcccaacagt 480
ttcagtgatg ctgcctcttc attcagagca gaacaaaagc tcccctgatc caactagcac 540
actgtcaaat acagtgtcat atgagaggtc cacagacggt agtttccaag accgtttcag 600
ggaattcgag gattccacct taaaacctaa cagaaaaaaa cccactgaaa atattatcat 660
agacctggac aaagaggaca aggatttaat attgacaatt acagagagta ccatccttga 720
aattctacct gagctgacat cggataaaaa tactatcata gatattgatc atactaaacc 780
tgtgtatgaa gacattcttg gaatgcaaac agatatagat acagaggtac catcagaacc 840
acatgacagt aatgatgaaa gtaatgatga cagcactcaa gttcaagaga tctatgaggc 900
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tgtctgatgg tcaagctatt gcagaccaaa gtgaaataat accaacattg ggccaatttg 1260
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ataaataaat gaagtaagcc ataaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 4260
aaaaaaaaan aaanaaaaaa aaaaaaaaaa aaaaangggg gg 4302

<210> 89
<211> 2782
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (82)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (743)
<223> n equals a,t,g, or c

<400> 89
ggaaaagcag gagaccagtt ggtgccagat aatctaaaag aaacagataa ggaaaagggc 60
aatgtggtgc tgaaaggaga antgagtgcc cggatgaaga ttccaagcaa tatgtgggta 120
gaagcctggg aaacagctaa gccaattcct gctagaaggc aaaggagact ctttgatgat 180
acacgggaag cagaaaaggt gctgcactat ctggcaatcc agaaacctgc agaccttgct 240
cggcacctgt taccttgtgt gattcatgca gctgtactca aggtaaagga agaagaaagt 300
ctcgaaaaca tttcttcagt taagaagatc ataaagcaga taatatccca ttccagtaaa 360
gttttgcact tccccaatcc agaagacaag aaattggaag aaatcattca ccagattact 420

aatgtggaag ctctcattgc cagagctcgg tcactaaaag ccaagtttgg aactgagaaa 480
tgtgaacagg aggaggaaaa ggaagatctt gaaaggtttg tgagttgcct gctggagcag 540
cctgaagtgt tagtcaccgg tgcaggaaga ggacatgctg gcaggatcat tcacaagctg 600
tttgtgaatg cccagaggtg ccagctatga ctccaccaga ggaggaattg aagagaatgg 660
gctccccaga ggaaagaagg cagaactccg tgtcagactt cccacccccct gctggccggg 720
aattcatttt gsgcamcact gtncgcgccc tgctccctac tccaaagctc tgcctcagcg 780
gatgtacagt gttctcacca aagaggactt tagacttgca ggtgcctttt catcagatac 840
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tcctgaggga gggaaggtac cagggagaac ctgggaggtc ctggagaggg ccctgtccag 960
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tcttttggtt gccatggaag ttatggccct gaaaatcgtc tccctcccct tctcttgctg 1620
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atagcacttg caaaaataca gtcttggtac ctagagactg tcatgcagat agtataattt 1740
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tctaatttca tgtggktttg tgctgtctca gctctaatgt ttgcagcctg ctgagcctaa 2460
caaggcagtg gtctcaagaa cattctttgt gcctttttaa agtactccat tttattttta 2520
tgatagttat gtatttattt cacagatata tttaagtacc cactttgtgt caggtacagt 2580
acaagcaatg aagataaaac agaaaccaaa acacactccc ttacagggaa aactgacacc 2640
acgttgccac aaaatgttga gtatagtcaa ctctgctgtg tggatcggag ggcctgcatt 2700
tatcctacaa ataattgaat gtaatcctac attcatgtat tcattggcag tacggagtaa 2760
taaatgcagc aatgccataa aa 2782

<210> 90
<211> 1037
<212> DNA
<213> Homo sapiens

<400> 90
aattcggcac gagctgtctg cgaagtggcc cttgattaca aaaagaagaa acacacctaa 60
acactttatc tccaagttac aaaagtttga ggtgcagagg gaaggccaga tttttttttt 120
aatgaaatta tatagattag atctcagtat ttaaactgtt cctcaatttt gtgaggctgt 180
gttggaaata acccgcctct agtgctgttg gtatgcaagg cagcggtgct taatcaatat 240

ttcctgtgct caccagaggc aaaatgtacc aatatcctga caccattctc tctccattta 300
cttctggtgg ttaccctgac tcttgactct tagaagtgcc cgagatgggg ctaaccttta 360
ttaaacagat cgcatattat gatcttgctg cagccacagt gcagctccac attaactcta 420
cagaccaaac catttgtatc tggcatcact tactaacaca cgacatgcgg cttttctgca 480
tcaactgcta tgacggttaa gaatgtcagt atacaagaag gaatagaaaa ctgatactgt 540
tttaaataat ctgtaatttc aatttttttt tttttttgct gaaatacatt atattgtacg 600
tttgagataa ttctagtaca aagtataata aaactagatg tataataaac cctttaaatc 660
attggtaagt gtacaagtgg tggaactgaa gcatttactg gacaaagtaa tgttactcta 720
atggttactt gctcgtgcgt tgccacactg tgttataatt tgcttcattt ccttgctatt 780
tgatacatag tgtgcatttc tctgtcactg taactattgt aatgacaaat tttcatctta 840
ctgcacaatc aaaatgacat tgataggaat gaactccaga ggctgggcct gaacagggag 900
gtggtcgctc aggcctggtg ctcagtcgta cgacctgtac ctctcaactt ttgccctatc 960
tgttaaatat atgctatgtc attaaatgct tttaaatcta aaaaaaaaaa aaaaaaaaaa 1020
aacggggggg ggcccgg 1037

<210> 91
<211> 1052
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (76)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (962)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (965)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1044)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1048)
<223> n equals a,t,g, or c

<400> 91
gggcacgagt gcaggtggat gctgcactgc acccagcatc tctgcttatc aggaggctct 60
ggagccacac cgcagnaagc acacgccctt ttgagccaga catgctgact ttctaataag 120
gatgttctct ctccacagct gaaagatgaa aattctaagc tgagaagaaa gctgaatgag 180
gttcaragct tctytraagc wcawacagaa atggtgagga cgcttgagcg gaagttagaa 240
gcaaaaatga atcaaggagg aaagcgacta ccacgacctg gagtcggtgg ttcagcaggt 300

ggagcagaac ctggagctga tgaccaaacg ggctgtaaag gcagaaaacc acgtcgtgaa 360
actaaaacag gaaatcagtt tgctccaggc gcaggtctcc aacttccagc gagagaatga 420
agccctgcgg tgcggccagg gtgccagcct gaccgtggtg aagcagaacg ccgacgtggc 480
cctgcagaac ctccgggtgg tcatgaacag tgcacaggct tccatcaagc aactggtttc 540
cggagctgag acactgaatc ttgttgccga aatccttaaa tctatagaca gaatttctga 600
agttaaagac gaggaggaag actcttgagg acccctgggt gttctcagca tgaagctccg 660
tgtataccct gaggtcacca ccgctcgatc taaatgtgca gttgtgtcct taaatatgca 720
gtcttcaccc agagtaaagt gttgatcgca agagtccagt gtcgtgccct cagccagttc 780
ttggccacca caatgggagc agccctggcc cgagttgtct ctgtggtttc tatgcagccc 840
ttcttggsga aattcctgcg atcttataga ttctaatgag ctcttggaag acattgtcat 900
aaaagccagt gattttaara aaaaaaaaaa aaaaagggcg ggccggtttt aaaagatccc 960
tngangggc ccaagcttac gcgtgcattc gacgtcataa ctttttccc tataagggag 1020
cgattataag cttaggcact tggnccgngg tt 1052

<210> 92
<211> 1234
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (1115)
<223> n equals a,t,g, or c

<400> 92
cttcggcgca tgcgcgctga ggcctgcctg accgaccttc agcagggctg tggctaccat 60
gttctctcgc gcgggtgtcg ctgggctgtc ggcctggacc ttgcagccgc aatggattca 120
agttcgaaat atggcaactt tgaaagatat caccaggaga ctaaagtcca tcaaaaacat 180
ccagaaaatt accaagtcta tgaaaatggt agcggcagca aaatatgccc gagctgagag 240
agagctgaaa ccagctcgaa tatatggatt gggatcttta gctctgtatg aaaaagctga 300
tatcaagggg cctgaagaca agaagaaaca cctccttatt ggtgtgtcct cagatcgagg 360
actgtgtggt gctattcatt cctccattgc taaacagatg aaaagcgagg ttgctacact 420
aacagcagct gggaaagaag ttatgcttgt tggaattggt gacaaaatca gaggcatact 480
ttataggact cattctgacc agtttctggt ggcattcaaa gaagtgggaa gaaagccccc 540
cacttttgga gatgcgtcag tcattgccct tgaattacta aattctggat atgaatttga 600
tgaaggctcc atcatcttta ataaattcag gtctgtcatc tcctataaga cagaagaaaa 660
gcccatcttt tcccttaata ccgttgcaag tgctgacagc atgagtatct atgacgatat 720
tgatgctgac gtgctgcaaa attaccaaga atacaatctg gccaacatca tctactactc 780
tctgaaggag tccaccacta gtgagcagag tgccaggatg acagccatgg acaatgccag 840
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aattcagcca gttgattttg tttttagctt actgctgcct ttgtccgaag aaactgttcc 1020
tccattattt gaattactga agacagcaag atatttgtaa attatcttaa aataaacaac 1080
ttaaaataaa atcattgttt ttcttatata taagnacaat agatatagtt tttgaaatga 1140
gatgatacta aaacatttaa aaatattaat atgctactat taaaattttt tagtagaaga 1200
caaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaa 1234

<210> 93
<211> 1571
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (1497)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1516)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1530)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1546)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1571)
<223> n equals a,t,g, or c

<400> 93
gagcctgatt ccatcaaaaa gaaaggagta aaaagcaagt tacagcccag cagcacatct 60
gctttccctg ggtccggggg ctgccasgag ggascgggar gtctgtccac ctcacaaggc 120
aggctctgtc agcttttgtc actccctgat ttcttattct ttgttacctt ttttcgcctg 180
actgattttt acttggcatt taagttcccc ttagcactgc cagattctaa aaggttatat 240
tctttttaaa aaagaagaga aagaaaagaag gaaagaagac aaagaaagaa taaaaacctc 300
cgagtgttaa ctacttttcc ctttcttctt tttttataa agaatacatt ctttcacatc 360
ttgaatttct gtgaatttta gtttccattc tttctgcctt tgcaaaccag acacctaaat 420
tatacgtsga agctgttaaa aagttgtttt ttttttttta atggaaaata tccaagaagc 480
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aaaagttact tcttttttttc cccaccagtt ataatcttca accttactag tttataacag 600
tttaatgtcc tatagaagga tcctccacta aagttataat tttaagtata gtcatataga 660
gagatcccta atcccctggg taatctagat actaaaggtg gggaagaaca gtcatattga 720
cattctttaa tccaaaacca ctgtttgaaa ttagtaagga tattttcagc attcccaaaa 780
acatgttatt agcacgttga gctgaaaacg tttttcttcc tcagtgagta cagaaaccaa 840
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ggaagatccc aaacaccaaa gatggaaggt gaaaataaag actgcgtgac cgggaagaaa 1440

gtttgaatta ctaatagtgg ggaataataa tttcagtttt ggttttaaac atctggnatt 1500
cctaaaaaaa aaaaanaaaa aaaaaaaacn cggggggggg cccggnaccc aattcccccc 1560
aaaggggggg n 1571

<210> 94
<211> 1872
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (4)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (6)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (51)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1271)
<223> n equals a,t,g, or c

<400> 94
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ggtttttttt tttttttttg atttaataaa gttttatttt tccaaatgta cagctggttg 120
gacctattca tgcatcttca ccagcagctg gagcatctcc acccttggta tttctggtgt 180
aaattacttg agctctgtgc tttgaaacca gtttgataag tcctttacta aggagctcct 240
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gccgcaccgc ctaaatactg ccggagtctg cgctagttgt gacgcagtac tatagcgctg 660
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aatgttgtaa taaatattcc tttgatcttg gtgtttgcaa aaaaaaaaaa aaaaaaaact 1860
cgagactagc gg 1872

<210> 95
<211> 1516
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (1505)
<223> n equals a,t,g, or c

<400> 95
ggagggcaga aagggagagt gctgggcggg cttagtcgga gattgaggac tgggaatccg 60
cttccgggag ggcactgtct agtgcacagg caacctggcc ttsgcctcct agcccgagaa 120
gccgaatctc cctaatccct gtgacctgtg tcacctctgc atcgcgagga gggggataag 180
tggggagaag tctggtgtca gatgggatgg cgccggaaga gggtgccaca gcggggacgg 240
aaggcgcccc caccccaact ccacgggaat ataaacaatt tgtattttcc gatcaggtgg 300
cgggacaggc ttcattggga cagccctaac ccagctgctg aatgccagag gccacgaagt 360
acgttggtct cccgaaagcc cgggcccggc cggatcacgt gggatgagct cgctgcatcg 420
gggctgccga gctgcgatgc cgccgtcaac ctggccggag agaacatcct caaccctctc 480
cgaagatgga atgaaacctt ccaaaaagag gttctcggca gccgcctaga gaccacccaa 540
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ggtgtagctt actaccagcc cagtctgact gcggagtatg atgaagacag cccaggaggg 660
gactttgact ttttctccaa cctcgtaacc aaatgggaag ctgcagccag gcttcctgga 720
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gcaaaccacg tgcacggggt cctgaatgga gtggctccat cctccgccac taatgctgag 960
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ggggncccgt acccat 1516

<210> 96

<211> 1770
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (485)
<223> n equals a,t,g, or c

<400> 96
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gtcggacatt gaagcggtac ccatgccggc agwgtgaaca gtccttccac acccccaaca 120
gcctgcgcaa acacatccgc aacaaccatg acacagtaaa gaagttctac acctgcgggt 180
actgcacaga ggacagcccc agctttcctc ggccctccct tctggagagc cacatcagcc 240
ttatgcatgg catcagaaac cctgatttga gccagacgtc caaagtgaaa cctccgggtg 300
gacattcccc tcaggtgaac catctgaaaa gaccagtcag tggagtgggg gacgctccag 360
gcaccagcaa tggcgcaact gtctcttcca ccaaaaggca caagtccctt tttcagtgcg 420
cgaaatgtag ttttgccaca gactcggggc tcgagtttca gagccacata cctcagcacc 480
aggtnggaca gytccacagc ccaatgtctc ctctgtggtt tgtgctacac ctctgccagc 540
tccctcagcc gccacctctt cattgtccac aaggtgagag accaggagga ggaggaggaa 600
gaggaggcgg cggcacggag atggcagtgg aggtggcaga gcagaggagg gctccgggga 660
rgargtgccc atggagacta gagagaatgg actggaagaa tgtgccggtg agccyttgtc 720
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tctcaccatg caggtaggct cttgtattcc 1770

<210> 97
<211> 938
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (183)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (293)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (360)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (938)
<223> n equals a,t,g, or c

<400> 97
gcagaagagg ggagattggg ggagagatga cagctgcagg gatggttgtr agccgctagt 60
ratggagagc agagggagag ggccaggctc caractccca cacgcccaca cagcacctct 120
gccaggccta ggagaagaca ggtgcagctc ttgcagctct gcgggtgtgc ggccaaaggc 180
aangcccacg ggctggatgt cacttccccg actgtctctt ggttggcttg tccttgtgca 240
agacccagcs tgtcacgaca garcctgggc acttcagagg aggagccagg ttngaatggt 300
aagggggaa ttggggtcca ccatagtctt ctgctctggt cctccacggg tgggaccagn 360
atggaagtct cctgcctaac ctcactgcat tgcactggac ctgggatgcc tatccaccct 420
ctggcagaag acactcacca ggttatctgt gaagagactc tggatccca tcacctcaaa 480
gccagagggt ccccaagtca ccgctgagag cacttgagcc tcaaggatgt aagcctgacc 540
ataggatctt gactccaaca gcggcaaccc ccaccccat tgtggtccgt ccttaaccca 600
tccactcttc ttcggaggca actgagaaca cataaagcaa gcagctacct agcatccccc 660
tcctaaagct ttagactcag agcccagggt cccccacaag cctcaaggta gcctcaggtt 720
tctctaattt cctccactcc cagttcgaag caaacagctt actgcctagt ccccgccaat 780
cccaagggcg ggctggctga tggcagcatg gtgggctggc ctgggtgtgg agtgaaagag 840
tcactgtggt gggggcgaga ggaggacttg ggagctggag gtgtgacacc ttcagttctg 900
ttcctattaa aggaccttct gaagggcaaa aaaaaaan 938

<210> 98
<211> 311
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (297)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (309)
<223> n equals a,t,g, or c

<400> 98
agatgcggct ggagcagcag aagcagacgg tccagatgcg cgcgcagatg cccgccttcc 60
ccctgcccta cgcccaggca tgtgccatcc tcccgccacc cagaggtttg tgggctgagg 120

accaactctc accgctgtct ctttcgtccc cagctccagg ccatgcccgc agccggaggt 180
gtgctctacc agccctcggg accagccagy ttccccagca ccttcagccc ygccggctcg 240
gtggagggct ccccaatgca cggcgtgtac atgagccagc cggtccctgc cgctggnccc 300
taccccagna t 311

<210> 99
<211> 620
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (368)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (570)
<223> n equals a,t,g, or c

<400> 99
actgccggtc gttcggacgt cttgcctgtc gctggaggag aggtccgggc tctccaggaa 60
ggtggctgcg gcgacaaaat gaagatattc gtgggcaacg tcgacggggc ggatacgact 120
ccggaggagc tggcagccct ctttgcgccc tacggcacgg tcatgagctg cgccgtcatg 180
aaacagttcg ccttcgtgca catgcgcgag aacgcgggcg cgctgcgcgc catcgaagcc 240
ctgcacggcc acgagctgcg gccggggcgc gcgctcgtgg tggagatgtc gcgcccaagg 300
cctcttaata cttggaagat tttcgtgggc aatgtgtcgg ctgcatgcac gagccaggaa 360
ctgcgcanct cttcgagcgc cgcggacgcg tcatcgagtg tgacgtggtg aaagactacg 420
cgtttgttca matggagaag gaagcagatg ccaaagccgc aatcgcgcag ttcaacggca 480
aagaagtgaa gggcaagcgc atcaacgtgg aatctycacc aagggtcaga agaaggggcc 540
tggcctggct gtccagtctt gggacaagan caagaaacca agggctgggg ataggccttc 600
cctggaatgg tggctttctg 620

<210> 100
<211> 2511
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (12)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (28)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (44)

<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (2456)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (2488)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (2511)
<223> n equals a,t,g, or c

<400> 100
gtaccattcc cngaccgctt ggcctgtncg attaatccgc cccnatagga attggcccgg 60
gccagattcg gccgagcaag cggaacctct gggaaaagca atctgtggat aaggtcactt 120
cccccactaa ggtttgagac agttccagaa agaacccaag ctcaagacgc aggacgagct 180
cagttgtaga gggctaattc gctctgtttt gtatttatgt tgatttacta aattgggttc 240
attatctttt atttttcaat atcccagtaa acccatgtat attatcacta tatttaataa 300
tcacagtcta gagatgttca tggtaaaagt actgcctttg cacaggagcc tgtttctaaa 360
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gtgataccaa ccacatctga agtcaacaga agatccaagt ttaaaattgc ctgcggaatg 480
tgtgcagtat ctagaaaaat gaaccgtagt ttttgttttt ttaaatacag aagtcatgtt 540
gtttctgcac tttataataa agcatggaag aaattatctt agtaggcaat tgtaacactt 600
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cactattaca tatttttcta gaaaatctaa agttcagaag agaatgtatc actgctgact 2160
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gaggatccag gcttacgtac gcgtgccngc gacgtccata gccccttcta n 2511

<210> 101
<211> 2981
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (293)
<223> n equals a,t,g, or c

<400> 101
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ccctcggcta ccctttcctg ccccactagc gtggccgcga gcctcggtga gccggccgta 120
ttcccgctct cgcttagggg gcacaggcgc aggcatcggc ccggccactc caagccttcg 180
gtgcgcgggc gcgtctggga tacgggcccg ggaggcgccg ccctccgtcc gcccggtgcc 240
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gttctcagtc ctgcttctct gtgggtacgt gcccctctgt ttaaaaataa actgaatatg 2940
gatgtttaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa g 2981

<210> 102
<211> 2804
<212> DNA
<213> Homo sapiens

<400> 102
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gagcgcaaca ggaagcggcg agaaggaatg tggagtgact gctacttttg atgctagtcg 120
gaccactttt acaagagaag gatcattccg tgtcacaaca gccactgaac aagcagaaag 180
agaggagatc atgaaacaaa tgcaagatgc caagaaagct gaaacagata agatagtcgt 240
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<212> DNA
<213> Homo sapiens

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<211> 1636
<212> DNA
<213> Homo sapiens

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<211> 800
<212> DNA
<213> Homo sapiens

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<210> 108
<211> 1058
<212> DNA

<213> Homo sapiens

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<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1019)
<223> n equals a,t,g, or c

<220>
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<222> (1054)
<223> n equals a,t,g, or c

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<211> 1076
<212> DNA
<213> Homo sapiens

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<221> misc feature
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<223> n equals a,t,g, or c

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<211> 1199
<212> DNA
<213> Homo sapiens

<400> 110
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<211> 3630
<212> DNA
<213> Homo sapiens

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<222> (3606)

<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (3608)
<223> n equals a,t,g, or c

<400> 111
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<210> 112
<211> 1526
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (1496)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1511)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1512)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1515)
<223> n equals a,t,g, or c

<400> 112

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ggctccgggc agctcggcct tgggggcttc ggggccccga gacgcggggc gtatgagtgg 180
ggcgtgcgct ccacgcggaa gtcggagcct cctcccctgg atagggtgta cgagatccct 240
ggactggagc ccatcacctt tgcggggaag atgcacttcg tgccctggct ggcgcggccg 300
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gagaaagtgc ttagccttgt tgatgatcca aggaaccaca tagagaacca agacgagtgc 540
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aaccgagagt ctcttctcct tcaagtccgt ggttctggtg gagcccgact gagcactaag 780
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ggccgctcaa nnggncccaa gttagt 1526

<210> 113
<211> 585
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (422)
<223> n equals a,t,g, or c

<400> 113
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tggtgttggt attaggagat ctgcacatcc cacaccggtg caacagtttg ccagctaaat 120
tcaaaaaact cctggtgcca ggaaaaattc agcacattct ctgcacagga aacctttgca 180
ccaaagagag ttatgactat ctcaagactc tggctggtga tgttcatatt gtgagaggag 240
acttcgatga gaatctgaat tatccagaac agaaagttgt gactgttgga cagttcaaaa 300
ttggtctgat ccatggacat caagttattc catggggaga tatggccagc ttagccctgt 360
tgcagaggca atttgatgtg gacattctta tctygggaca cacacacaaa tttgaagcat 420
tngagcatga aaataaattc tacattaatc caggttctgc cactggggca tataatgcct 480
tggaaacaaa cattattyca tcattgtgtt gatggatatc caggcttcta cagtggkcac 540
ctatgtgtaa tcagctaatt ggagatgaag tgaaagtaga acgga 585

<210> 114
<211> 501
<212> DNA
<213> Homo sapiens

<400> 114
gatgaaaaga aggtttttgc tcttcaaatg cttaagtaaa ctaaaaggca gagctggaaa 60
taaagcccgt attgtggact ccaagtaatg ctctttctgc tacaccatac tttgtggtgt 120

ctgctcccat gtgcttcttc gctaaggctg atcaaaaaag ttagtaggtt gcttcagcta 180
taagaatttg atggtcttcc ttagtcatca tagtctgcag caatcatttt tgttcatcat 240
tgggatgtct gcttactcct gttgagtaaa tgtgatctat tcacccttgg ragctccttg 300
cacaccaaca gtattcttgg atagggacaa gtgttgtcta agtcagtgac gatttcttta 360
gcataataaa aggctccatg taggatgcta atacttgagt gaaatatgct tcataagcag 420
ccttgttttg acagagttgg tgtaaagtga ggttatgtct tggcctgagc gtcttcaaag 480
catgtgccac tttgtgcatc t 501

<210> 115
<211> 1965
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (338)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (343)
<223> n equals a,t,g, or c

<400> 115
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tatcccctga agccgggccc cgcgtcccag mcctggccca aaggcaggag cagcagacaa 120
gagtgcagtg gtggctgccg ccgcaccagc ctcagtggca gatgacacac cacccccçga 180
gcgtcggaac aagagcggta tcatcagtga gcccctcaac aagagcctgc gccgctcccg 240
cccgctctcc cactactctt cttttggcag cagtggtggt agtggcggtg gcagcatgat 300
gggcggagag tctgctgaca aggccactgc ggctgcancc tgncctccct gttggccaat 360
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gaactcaaaa agaagccttc cgctgctctg gagaaggtga tgcttccgac gggagccgcc 960
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cagcttcctg ctgatgaaca tgctgtttgt attgttttag gaaaccaggc tgttttgtga 1920
ataaaacgaa tgcatgtttg tgtcacgaar maaaaaaaaa aaaaa 1965

<210> 116
<211> 1060
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (299)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1060)
<223> n equals a,t,g, or c

<400> 116
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gaggcttctc ttttgataac tgccgcagaa tgccgtcttg gaagccgatt ttgcaaagag 120
gggatacaag cttccaaagg yccggaaaac tggcacgacc atcgctgggg tggtctataa 180
ggatggcata gttcttggag cagatacaag agcaactgaa gggatggttg ttgctgacaa 240
gaactgttca aaaatacact tcatatctcc taatatttat tgttgtggtg ctgggacanc 300
tgcagacaca gacatgacaa cccagctcat ttcttccaac ctggagctcc actccctctc 360
cactggccgt cttcccagag ttgtgacagc caatcggatg ctgaagcaga tgcttttcag 420
gtatcaaggt tacattggtg cagccctagt tttaggggga gtagatgtta ctggacctca 480
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cggaagcaac attgacctct gcgtcatcag caagaacaag ctggattttc tccgcccata 720
cacagtgccc aacaagaagg ggaccaggct tggccggtac aggtgtgaga aagggactac 780
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gagcattgag gcccagtaag acactcatgt ggctagtgtt tgccgaatga aactcaactc 960
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aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaan 1060

<210> 117
<211> 709
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (174)
<223> n equals a,t,g, or c

<400> 117
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gacttgtctg atcacccaat ggaagtggat acttgtaaag tctacaccac tgtacttggc 120
gttaaatctt gctgaattcg tggtaagctg ttaccatgtc tacattttgt agantgattt 180
tggtctgcag caaaattcga tttcacttct catacccctt tccttccact tgaaatgcaa 240
tttagacaga ggccctgtgg tgaaagttgc aatattaagt ttmcctttag aagatcccyt 300
cctcaaacct cagaacccct agcagtgtta ccctwaaaca aaaatgagct cgagaaaaaa 360
gtagctcagt tacagagaag caaatcgagt tatttcccca cataaaaagt ttccccagat 420
tctaagaatt gcagtatcct gtaccctaaa atttttcaag gtgactcctg ttgtcgtctg 480
ttgataactt taataaaggt catttaagga cataagtttt taaagactcc caaagtgaaa 540
cttaaacatt ttcgggatta tcgattgcat atatcagttt atgctgtgtg ctgaattact 600
atgccatgtg ctattttagt gtttggggaa aatgaaaaat aaaatttgtt ctttagctta 660
ataaatatgt cttattttaa aaaaaaaaaa aaaaaactcg agactagct 709

<210> 118
<211> 2053
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (813)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (2049)
<223> n equals a,t,g, or c

<400> 118
ctccttggcg cctgtcccca cggcccccgc agcgtgacca cgatgctccc catacccccac 60
ccattcccga tacaccttac ttactgtgtg ttggcccagc cagagtgagg aaggagtttg 120
gccacattgg agatggcggt actgagcaga catgccccca cgagtagcct gactccctgg 180
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tttttacccc tccttagctt tatgcgctca gaaaccaaat taaacccccc ccccatgtaa 600
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ccccccgcca tttatcgccc tgattggatt ttgtttttca tctgtccctg ttgcttgggt 720
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gccggagtgg gtgttcccgg gggcacttgc cgaccagccc cttgcgtccc caggtttgca 1680
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taatatttcc ggcaaaatcc catgcttggg ttttgtcttt aaccttgtaa cgcttgcaat 1980
cccaataaag cattaaaagt catraaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 2040
gggggggggnc cgg 2053

<210> 119
<211> 1824
<212> DNA
<213> Homo sapiens

<400> 119
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caacatcttt agaaactcag gatgacgata acataagact gaaggaaaat acttttacca 120
tagaaaatga aaagtgttaa aatagcattt gctgttactc tggagacagt gctagccggt 180
catgaaaact gggtaaatgc agttcactgg caacctgtgt tttacaaaga tggtgtccta 240
cagcagccag tgagattatt atctgcttcc atggataaaa ccatgattct ctgggctcca 300
gatgaagagt caggagtttg gctagaacag gttcgagtag gtgaagtagg tgggaatact 360
ttgggatttt atgattgcca gttcaatgaa gatggctcca tgatcattgc tcatgctttc 420
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aaatgtttgg caatgattaa tcggtttcag tttgtatctg gagcagatga aaaagttctt 720
cgggtttttt ctgcacctcg gaattttgtg gaaaattttt gtgccattac aggacaatca 780
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cttgcctcag cttgtaaggc agctaagaaa gagcatgcag ctatcattct ttggaacact 1140
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gaaataaatg actggaccca ctgtgtagaa acaagtcaaa gccaaagtca tacactggct 1680
atcagaaaat tatgctggaa gaattgcagt ggaaaaactg aacagaagga agcagaaggt 1740

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aataaatgtg cactgtaatg gaaa 1824

<210> 120
<211> 606
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (144)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (155)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (598)
<223> n equals a,t,g, or c

<400> 120
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ctatttycag cttttcctca attnacattt tggtngtata cttcagagtg atgttatcta 180
agtttaagta gtttaagtat gttaaatgtg gatcttttac accacatcac agtgaacaca 240
ctggggagat gtgctttttt ggaaaactca aaggtgctag ctccctgatt caaagaaata 300
tttctcatgt ttgttcattc tagtttatat tttcatttaa aatcctttag gttaagttta 360
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gaaacttgtt aaattttttg ttaactaaat ttttttctta aaataaagac tttttcacaa 540
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gtatac 606

<210> 121
<211> 838
<212> DNA
<213> Homo sapiens

<400> 121
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gccaccatct tgctggtggg cacggaggat gctcttctgc agcagctggc ggactcgatg 180
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ggtgcgcgtg ctgcagatct gtgctggcca cgtgcccggt gtctcagctc tgaacctgct 480
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<210> 122
<211> 656
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (41)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (218)
<223> n equals a,t,g, or c

<400> 122
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aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaggggggg gggcggacgc gtgggc 656

<210> 123
<211> 1386
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (8)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1283)
<223> n equals a,t,g, or c

<400> 123
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cgggtgttgg cgcaaaggtt actcccagac ccttttccgg ctgacttctg agaaggttgc 120
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ctctggacct tgtctcgctc gggagcggaa acagcggcag ccagagaact gttttaatca 240
tggacaaaca aaactcacag atgaatgctt ctcacccgga aacaaacttg ccagttgggt 300
atcctcctca gtatccaccg acagcattcc aaggacctcc aggatatagt ggctaccctg 360
ggccccaggt cagctaccca cccccaccag ccggccattc aggtcctggc ccagctggct 420
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caggggtacc atggatgcca gcgccacagc ctccattaaa ctgtccacct ggattagaat 540
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caggttttga aactaataac aaatatgaaa ttaagaacag ctttggacag agggtttact 660
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cattgg 1386

<210> 124
<211> 845
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (823)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (825)
<223> n equals a,t,g, or c

<400> 124
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gccggggcag acgtccgtag cgccccctcc cgaggaggtc gagccgggca gtggggtcgg 120
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tgctgtgaag gagcagtatc cgggcatcga gatcgagtcg cgcctcgggg gcacaggtgc 240
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cttcgcctcg gtaatacctg tctgatgcca cagattttat ttattctccc ctaacccagg 720
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ccccc 845

<210> 125
<211> 1656
<212> DNA
<213> Homo sapiens

<400> 125
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aagataaaaa cgcccaaaaa aaaaaaaaaa aaaacc 1656

<210> 126
<211> 837
<212> DNA
<213> Homo sapiens

<400> 126
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aatttaactc catatgtgtt cctcttgttc taatcttgtc aaccagtgca agtgaccgac 120
aaaattccag ttatttattt ccaaaatgtt tggaaacagt ataatttgac aaagaaaaat 180
gatacttctc tttttttgct gttccaccaa atacaattca aatgcttttt gttttatttt 240
tttaccaatt ccaatttcaa aatgtctcaa tggtgctata ataaataaac ttcaacactc 300

tttatgataa caacactgtg ttatattctt tgaatcctag cccatctgca gagcaatgac 360
tgtgctcacc agtaaaagat aacctttctt tctgaaatag tcaaatacga aattagaaaa 420
gccctcccta ttttaactac ctcaactggt cagaaacaca gattgtattc tatgagtccc 480
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<210> 127
<211> 1217
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (1168)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1169)
<223> n equals a,t,g, or c

<400> 127
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ttccgcagtt cgaagcccag ttgggccgac caggtggagg aggaggggga ggacgacaaa 180
tgtgtcacca gcgagctcct caaggggatc cctctggcca caggtgacac cagcccagag 240
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ttcgggaact cagagtttga cccccccgga cccaatgtgg ccaccaccac tgtcagtgac 480
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cactgtgtac tcggtccggg acccttggcg acagaagaca gcctccgaga gcgcgggctc 1140
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<210> 128
<211> 1349
<212> DNA

<213> Homo sapiens

<220>
<221> misc feature
<222> (57)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1133)
<223> n equals a,t,g, or c

<400> 128
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gctgaggaca tgacatccaa agattactac tttgactcct acgcacactt tggcatccac 180
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aaaaaaaaaa aaaaaaaaaa aaaaaaaaa 1349

<210> 129
<211> 2318
<212> DNA
<213> Homo sapiens

<400> 129
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<210> 130
<211> 2149
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (787)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (819)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1518)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (2116)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (2147)
<223> n equals a,t,g, or c

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taccccgaaa tcattgaacg agcaggctat tcyttggaga aggtatttgg gattcaattg 1140
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<210> 131
<211> 1020

<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (11)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1019)
<223> n equals a,t,g, or c

<400> 131
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ttaagaaact caactgccaa gtgattggtg cttctgtgga ttctcacttc tgtcatctag 360
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cagacccgaa gcgcaccatt gctcaggatt atggggtctt aaaggctgat gaaggcatct 480
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ctgacaaaca tggggaagtg tgcccagctg gctggaaacc tggcagtgat accatcaagc 660
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<210> 132
<211> 2319
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (10)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (2246)
<223> n equals a,t,g, or c

<400> 132
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caagagaacc tgcaaccgtt tccgcctcct gctagagcgg cgaaccrtgg gcagtgaggt 240
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gaacgccccg gcgctcgctc tgcctgtagc caggatgcag ctcccaggcc ctggtctgcg 360
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gctccaggct gaggaggaca ccctaccctc ggcggagacc gcactcatct tacaccgcaa 480
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<210> 133
<211> 1373
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (403)
<223> n equals a,t,g, or c

<400> 133
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ggtcgttgga gtcacttccg cgtcaccagc tcctgtgcct gccagtcggt gcccctcccg 120
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gcacctcggc ccagaacaat gctaaagtag ctgtgctagg ggcctctgga ggcatcgggc 240
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ccacgattgt ggccaccctg accgctgcct gtgcccagca ctgcccggaa gccatgatct 540
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ttttattttt caaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaa 1373

<210> 134
<211> 1657
<212> DNA
<213> Homo sapiens

<400> 134
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gtaaaacaga ccatcagtaa catttcagga tttaatgaaa cctgcttgag atggagaagc 180
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gtaatgtcta cattccagta aaaatatccc gtaattaaaa aaaaaaaaaa aaaaaaaaaa 1620
aaaaaaaaaa aaaaaaaaaa aaaaaaaaag ggcggcc 1657

<210> 135
<211> 2360
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (1517)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (2330)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (2353)
<223> n equals a,t,g, or c

<400> 135
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attgaccaaa gcaatggtga tggagaagcc tagtcccctg ctggtcgggc gggaatttgt 180
gagacagtat tacacactgc tgaaccaggc cccagacatg ctgcatagat tttatggaaa 240
gaactcttct tatgtccatg gggggattgga ttcaaatgga aagccagcag atgcagtcta 300
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gattcgccat gttgatgctc atgccacgct aaatgatggt gtggtagtcc aggtgatggg 420
gcttctctct aacaacaacc aggctttgag gagattcatg caaacgtttg tccttgctcc 480
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aactgttagt tttttgaag tagtttttc cakgtttaat ttgtatttgg ttaaaaaaac 2280
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<210> 136
<211> 1042
<212> DNA
<213> Homo sapiens

<400> 136
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cccgccggcg ctgctgagtt tcttcatcta caacccgcgc ttcgggccgc gcgaaggaca 180
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agaaagaacc ccagtttaag tt 1042

<210> 137
<211> 1037
<212> DNA
<213> Homo sapiens

<400> 137
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gcggagcggg gccgccgggg cctctccagg gccgcagcgg cagcagttgg gccccccgcc 120
ccggccggcg gaccgaagaa cgcaggaagg gggccggggg gacccgcccc cggccggccg 180
cagccatgaa ctccaacgtg gagaacctac ccccgcacat catccgcctg gtgtacaagg 240

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tcctgaccaa gatcttccac ccgaacgtgg gcgccaatgg cgagatctgc gtcaacgtgc 480
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<210> 138
<211> 1490
<212> DNA
<213> Homo sapiens

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<222> (1225)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1239)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1348)
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<220>
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<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1487)
<223> n equals a,t,g, or c

<400> 138
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caagacagta aggattcaaa ccatttgcca aaaatgagtc taagtgcatt tactctcttc 120
ctggcattga ttggtggtac cagtggccag tactatgatt atgattttcc cctatcaatt 180
tatgggcaat catcaccaaa ctgtgcacca gaatgtaact gccctgaaag ctacccaagt 240
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gagtctgtgg gcccacttcc caaatctctg gaggatctgc agcttactca taacaagatc 540
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ccaactgtca atgaaaacct tgaaaactat tacctggagg tcaatcaact tgagaagttt 960
gacataaaga gcttctgcaa gatcctgggg ccattatcct actccaagat caagcatttg 1020
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cgtgktgcta acgaagtcac tcttaattaa tatctgtatc ctggaacaat attttatggk 1140
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gttgcaggaa acagccagtt ttaaaatcct taaacttaag ttcctcaagc tggataaaac 1440
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<210> 139
<211> 1684
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (93)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (201)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1657)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1659)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1682)
<223> n equals a,t,g, or c

<400> 139
tcgacccacg cgtccggccg gctgagccac agcagggtcg ccgcggggtc ccggggccgt 60
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gagctgggcc ctcgcccctc cctcgggcgg tcacctgggc acgggcgctg caggtgtcgg 180
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ggaargaamc gctctcgstt cgtcctacac ttgcgcaaat gtctccgagc ttactcacat 360
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atgaagcagt gttttatcat gtgtatttca gcaggtcttc ttgaaattta actaaaaata 540
tgactgctct ctcttcagag aactgctctt ttcagtacca gttacgtcaa acaaaccagc 600
ccctagatgt taactatctg ctattcttga tcatacttgg gaaaatatta ttaaatatcc 660
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cactagcatt cgttgatctt ttacttttgg taaacatttc cattatattg tatttcaggg 780
attttgtact tttaagcatt aggttcacta aataccacat ctgcctattt actcaaatta 840
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cnac 1684

<210> 140
<211> 427
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (395)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (417)
<223> n equals a,t,g, or c

<400> 140
ggacttcctc ccagcacatt cctgcactct gccgtgtcca cactgcccca cagacccagt 60
cctccaagcc tgctgccagc tccctgcaag cccctcaggt tgggccttgc cacggtgcca 120
gcaggcagcc ctgggctggg ggtaggggac tccctacagg cacgcagccc tgagacctca 180
gagggccacc ccttgagggt ggccaggccc ccagtggcca acctgagtgc tgcctctgcc 240

accagccctg ctggcccctg gttccgctgg ccccccagat gcctggctga gacacgccat 300
ggcccttcag ctggcccaca cytyttcccg gsccctggaa kttggcaytg cagcagacag 360
ytccytgggc accagrcagy taacaggaca cagcngccag cccaaacagc agcgggnatg 420
ggggcag 427

<210> 141
<211> 889
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (60)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (698)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (889)
<223> n equals a,t,g, or c

<400> 141
ggcacgaggt tgacgtcctg tagcatttgc tgttctagaa agtacagaga cacgtagaan 60
agatgggagg atctagaagg aggctgtctc ctgtgtagtg tatatttatc tgtaagtgag 120
ccgttgggga aggattgaat acagagacgc tgtctgcttg ctgccttaag acagctagct 180
gaattgctga ttaactttta aaatacccag cttggtttat ttttcttaga atctgttgct 240
aagactgggg acgctgtttt cttttacaaa gggaaatcta agttaatttc aaggcattcg 300
aaatggggaa agactattat tgcattttgg gaattgagaa aggagcttca gatgaagata 360
ttaaaaaggc ttaccgaaaa caagccctca aatttcatcc ggacaagaac aaatctcctc 420
aggcagagga aaaatttaaa gaggtcgcag aagcttatga agtattgagt gatcctaaaa 480
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atggacaagg aggtaccttc cggtacacct ttcatggcga tcctcatgct acatttgctg 600
catttttcgg agggtccaac ccctttgaaa ttttctttgg aagacgaatg ggtggtggta 660
gagattctga agaaatggaa atagrtggtg atcctttnag tgcctttggt ttcagcatga 720
atggatatcc aagagacagg aattctgtgg ggccatcccg cctcaaacaa gatcctccag 780
ttattcatga acttagagta tcacttgaag agatatatag tggttgtacc aaacgggatg 840
aaagatttct cgaaaaaggt taaaacgctg atggtaggag ttacagttn 889

<210> 142
<211> 1505
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (1493)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1499)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1500)
<223> n equals a,t,g, or c

<400> 142
agtgagggaa gcgatgggcg cgggaatggc cggcccacgg gtcgcaggag acgggacgcc 60
agcttttggc tccgttccgc tggctccttc gtcagtactg acacctcggg cttgtagagc 120
acttcacgca gcaaaagcgc cccccgtcta tatcatatcg cctctcggtc ctcctaaaag 180
tcgtatgaga tggagctgga ggaggggaag gcaggcagcg gactccgcca atattatctg 240
tccaagattg aagaactcca gctgattgtg aatgataaga gccaaaacct ccggaggctg 300
caggcacaga ggaacgaact aaatgctaaa gttcgcctat tgcgggagga gctacagctg 360
ctgcaggagc agggctccta tgtgggggaa gtagtccggg ccatggataa gaagaaagtg 420
ttggtcaagg tacatcctga aggtaaattt gttgtagacg tggacaaaaa cattgacatc 480
aatgatgtga cacccaattg ccgggtggct ctaaggaatg acagctacac tctgcacaag 540
atcctgccca acaaggtaga cccattagtg tcactgatga tggtggagaa agtaccagat 600
tcaacttatg agatgattgg tggactggac aaacagatca aggagatcaa agaagtgatc 660
gagctgcctg ttaagcatcc tgagctcttc gaagcactgg gcattgctca gcccaaggga 720
gtgctgctgt atggacctcc aggcactggg aagacactgt tggcccgggc tgtggctcat 780
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gcagtagcca aggtcatgca gaaggacagt gagaaaaaca tgtccatcaa gaaattatgg 1380
aagtgagtgg acagcctttg tgtgtatctc tccaataaag ctctgtgggc caagtcaaaa 1440
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aangggggnn 1500
ccccc 1505

<210> 143
<211> 1235
<212> DNA
<213> Homo sapiens

<400> 143
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cgggcaaagg tcccaggaag gtggcgtcag catctgcagc cgcgtcgacg ttgtcggagc 120
ctccgcggag gacccaggag agccggacta ggaccagggc cctgggcctc cccacactcc 180
ccatggagaa gctggcggcc tctacagagc cccaagggcc tcggccggtc ctgggccgtg 240
agagtgtcca ggtgcccgat gaccaagact ttcgcagctt ccggtcagag tgtgaggctg 300
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agatggatcg gacgctgcac aagatcaagt gccggatgga gtgctgtgat gtgccagccg 420
agacactcta cgacgtccta cacgacattg agtaccgcaa gaaatgggac agcaacgtca 480
ttgagacttt tgacatcgcc cgcttgacag tcaacgctga cgtgggctat tactcctgga 540
ggtgtcccaa gcccctgaag aaccgtgatg tcatcaccct ccgctcctgg ctccccatgg 600
gcgctgatta catcattatg aactactcag tcaaacatcc caaataccca cctcggaaag 660
acttggtccg agctgtgtcc atccagacgg gctacctcat ccagagcaca gggcccaaga 720
gctgcgtcat cacctacctg gcccaggtgg accccaaagg ctccttaccc aagtgggtgg 780
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tcaagtaccc cgagtggaaa cagaagcacc tgcctcactt caagccgtgg ctgcacccgg 900
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gagacaggac cggcgagcc ctggggcggc ggccgctcct gcactttctc ccctccccca 1140
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ccccaataaa cgatcccaca gcctcaaaaa aaaaa 1235

<210> 144
<211> 1420
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (1385)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1396)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1400)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1410)
<223> n equals a,t,g, or c

<400> 144
gcaagaacgg agctgactga ggaaccaact ggagggtctt cactctctcc ttccccagtg 60
tacaaaacca gttttctgca acattcagga gccaaatgag gaaaaagaat caagaatctg 120
actcacagcc catctgatct gttcaaagct gtcttttcca cctgctgaaa ttcattaaat 180
cactggaggc atgcataatg aatggagaat gagtgaactt ccaatgcaac ttggattcac 240
aaacccatta tcatagccaa tatgcagatt ttaaacagca tttcacattt catttgacca 300
tgtcttcttt ttcgcatcgc ctgctgcaga attccctact agaatgtgaa acaacgaaca 360
aaccacagaa cttagagtgt gctggttagt cacataactt agtagcagga ttgtgtatcc 420
aggcacaaag gtgtctttgc taatgttctc ttgctacctg ccctgcttca aacgctaaat 480
ggtatgggtc tttctttgtt gccagccata ttctacaaat aagacttttc aatatagtta 540

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tgagtaatat aattttatgt acatataatg ttagaatatt gtacagaatc ttggtttcta 600
cgatgcgctt ttcttgtttc aaaaagagga aaatgcttga tttttgttga tgatactttt 660
gttactgtcc ttaattttcc atagtttggt ttcttaattg tgctcactaa gcatcgatct 720
gtgctgatgc caagctatgg actatgtacg caagaccgag caatagacag aggtgcctag 780
ggtccaaaca cactgaacgc acgtggaccg cctggwtcag gagcctcatc agacccttct 840
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cttctgtgca gactttaaga gctgaacgtt ctggttctgg aagccatgtg actgcgcaga 960
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gctatctccc tgtgtactgt ttctcttaaa tggagcagat agaaatctgc agtgttggca 1260
gataggtgga tgggagaggg atggataatt ttatcttctg ggccacagag ctggcagccc 1320
cagtttgtcc agagtccttt aaatggaaac ccccaaatcc atcccttcct ttccctaacc 1380
cccangggga tattcntagn attaagggcn cgggataagt                       1420
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<210> 145
<211> 1919
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (1882)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1898)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1919)
<223> n equals a,t,g, or c

<400> 145

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cgtcggcccg cgggggggcg gcctcccggc atcttcgcgg cgaccaagga ctaccaggaa 120
ggggagcggc tgggatggcg cgtccgggcc ccgskagtac aaagcgggcg acctggtctt 180
cgccaagatg aagggctacc cgcactggcc ggcccggatt gatgaactcc cagaggcgct 240
gtgaagcctt cagcaaacaa gtatcctatc ttcttttttg gcacccatga aactgcattt 300
ctaggtccca aagacctttt tccatataag gagtacaaag acaagtttgg aaagtcaaac 360
aaacggaaag gatttaacga aggattgtgg gaaatagaaa ataacccagg agtaaagttt 420
actggctacc aggcaattca gcaacagagc tcttcagaaa ctgagggaga aggtggaaat 480
actgcagatg caagcagtga ggaagaaggt gatagagtag aagaagatgg aaaaggcaaa 540
agaaagaatg aaaaagcagg ctcaaaacgg aaaaagtcat atacttcaaa gaaatcctct 600
aaacagtccc ggaaatctcc aggagatgaa gatgacaaag actgcaaaga agaggaaaac 660
aaaagcagct ctgagggtgg agatgcgggc aacgacacaa gaaacacaac ttcagacttg 720
cagaaaacca gtgaagggac ctaactacca taatgaatgc tgcatattaa gagaaaccac 780
aagaaggtta tatgtttggt tgtctaatat tcttggattt gatatgaacc aacacatagt 840
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ccttgttgtc attgacagaa ccccagtttg tatgtacatt attcatattc ctctctgttg 900
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atttggttgc atgaagttgc ccttaaccac taaggattat caagattttt gcgcagactt 1020
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caccatcatc aaacactcag ttaaatataa attaacattt tttagatgac cactcaacat 1140
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gtaagcaaac taagttagtg tnaattggcc tccaatangt aacgtggagg cattaatgn 1919

<210> 146
<211> 1379
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (925)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1371)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1377)
<223> n equals a,t,g, or c

<400> 146
gcccacgcgt ccgcccacgc gtccgcccac gcgtccgccc acgcgtccgg taagtttaga 60
tgactggtca atatcttaaa aatgtatatt agtaagaagt tcttcctgga atttttcttt 120
cgattctggc agaataaaca ggtgttttta gttttcccac tgtctgagcc aagcaggacc 180
ctgtcccaga gcaagagatg tccccttcca tctctgaccc ttgcctggga caagctttga 240
tggggggccc cagcttcaag gctgtggtgg gaacagcacc cccaaatgcc agcctctcct 300
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atttctggtg ggatatgcct tccagtgcca cagggccact caccccatgc atctctgtcc 420
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<210> 147
<211> 514
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (3)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (406)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (412)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (418)
<223> n equals a,t,g, or c

<400> 147
ttnggaaact gatcacttat caaggcttta tatattcttt acggatttag acatcaccat 60
accaagaagc ttactccatc tattccggtc tttgtaggac aggcttcatt tttcagccca 120
tgttctgtaa gccacacagt atgcctgcag aagctgctta tcggagccaa atataattgt 180
cagtacaatt taaagaccac tatgtgtccc cggagaccaa cctgtttatt tccctgaaag 240
accgcaacac cccacacaac atgtttcaga catttggacc ttgttagata agacacttgt 300
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<210> 148
<211> 2058

<212> DNA
<213> Homo sapiens

<400> 148
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<210> 149
<211> 1781
<212> DNA
<213> Homo sapiens

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<210> 150
<211> 1709
<212> DNA
<213> Homo sapiens

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<221> misc feature
<222> (1612)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1660)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1678)
<223> n equals a,t,g, or c

<400> 150

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gttggagggc tgagttttga caccaatgag cagtcgctgg agcaggtctt ctcaaagtac 180
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gggtttgtca cctttgagaa cattgacgac gctaaggatg ccatgatggc catgaatggg 300
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tcccgtgggt accgtggtgg ctctgccggg ggccggggct tcttccgtgg gggccgagga 420
cggggccgtg ggttctctag aggaggaggg gaccgaggct atgggggggaa ccggttcgag 480
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caggggactt cagaaggcaa cggttacta 1709

<210> 151
<211> 922
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (906)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (915)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (922)
<223> n equals a,t,g, or c

<400> 151
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cacctcgggg acattattgc gcgtggaacg gctgcttttg gaagactatt gcccagaaga 180
aaagatgttt ggttttcaca agccaaagat gtaccgaagt atagagggct gctgtatttg 240

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gagctgtttt ggattgcatg agactcgttc aggagacatc tgcaatgcct gtgtcctgct 360
tgtgaaaaga tggaagaagt tgccagcagg atcaaaaaaa aactggaatc atgtggtaga 420
tgcaagggct ggacccagtc taaagactac attgaaacca aagaaagtga aaactctatc 480
tgggaacagg ataaaaagca accagatcag taaactgcag aaggaattta aacgtcataa 540
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aggccgtttt ggggaagtcc tcattgacac acatctcttc aagccttgct gcagcaataa 780
gaaagcagct gctgagaagc cagaggagca gggccagagc ctctgcccat ctccactcag 840
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<210> 152
<211> 635
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (13)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (594)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (614)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (616)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (628)
<223> n equals a,t,g, or c

<400> 152

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tttgtccgcg cccaggagct acacaccttc gaggtgaccg gccaggaaac ggtcgcccag 180
atcaaggctc atgtagcctc actggagggc attgccccgg aagatcaagt cgtgctcctg 240
gcaggcgcgc ccctggagga tgaggccact ctgggccagt gcggggtgga ggccctgact 300
accctggaag tagcaggccg catgcttgga ggtaaagtcc atggttccct ggcccgtgct 360
ggaaaagtga gaggtcagac tcctaaggtg gccaaacagg agaagaagaa gaagaagaca 420
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ggtcgggcta agcggcggat gcagtacaac cggcgctttg tcaacgttgt gcccaccttt 480
ggcaagaaga agggccccaa tgccaactct taagtctttt gtaattctgg ctttctctaa 540
taaaaaagcc acttagttca aaaaaaaaaa aaaaaamtcg gggggggccc gkancccaat 600
ttsccctata gggngncgtt taaattcntt ggcgg 635

<210> 153
<211> 2328
<212> DNA
<213> Homo sapiens

<400> 153
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gagaaccgcg ccgccgcctc ggccccgcgg aagccccgcc gcgccatgtc ttcgcctccc 180
gaaggaaact agagactaaa gctggacacc cgcccgccgt gaaagctggt ggaatgcgaa 240
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gtgacaaaga tttccccccg gcggctgcgc aggtggctca ccagaagccg catgcctcca 420
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<210> 154
<211> 1268
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (80)
<223> n equals a,t,g, or c

<400> 154
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<210> 155
<211> 4299
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (2813)
<223> n equals a,t,g, or c

<400> 155
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<210> 161
<211> 1920
<212> DNA
<213> Homo sapiens

<220>
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<222> (43)
<223> n equals a,t,g, or c

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<223> n equals a,t,g, or c

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<223> n equals a,t,g, or c

<220>
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<222> (1915)
<223> n equals a,t,g, or c

<400> 161
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<210> 162
<211> 2619
<212> DNA
<213> Homo sapiens

<220>
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<223> n equals a,t,g, or c

<400> 162
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<210> 163
<211> 1419
<212> DNA
<213> Homo sapiens

<220>
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<222> (230)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (624)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (697)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1187)
<223> n equals a,t,g, or c

<400> 163
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<210> 164
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<212> DNA
<213> Homo sapiens

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<222> (189)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (2523)
<223> n equals a,t,g, or c

<400> 164

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<211> 817
<212> DNA
<213> Homo sapiens

<400> 165
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<210> 166
<211> 1578
<212> DNA
<213> Homo sapiens

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<222> (16)
<223> n equals a,t,g,.or c

<220>
<221> misc feature
<222> (38)
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<210> 167
<211> 1694
<212> DNA
<213> Homo sapiens

<400> 167
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aaaaaaaact cgag 1694

<210> 168
<211> 1636
<212> DNA
<213> Homo sapiens

<400> 168
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ttgaagagac cgctgg 1636

<210> 169
<211> 667
<212> DNA
<213> Homo sapiens

<400> 169
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tacccaa 667

<210> 170
<211> 3598
<212> DNA
<213> Homo sapiens

<220>

<221> misc feature
<222> (1)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (16)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (22)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (964)
<223> n equals a,t,g, or c

<400> 170
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taactggata aaatacgcac aatgggaaga aagcctaaag gagattcaaa gggctcgatc 420
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<210> 171
<211> 940
<212> DNA
<213> Homo sapiens

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<222> (8)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (12)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (919)
<223> n equals a,t,g, or c

<220>

<221> misc feature
<222> (935)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (938)
<223> n equals a,t,g, or c

<400> 171
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ccaatggaga aggttgggag tggagtagca gtgatgtgat gaattacttt gcatgggaga 480
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<210> 172
<211> 1458
<212> DNA
<213> Homo sapiens

<400> 172
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<210> 173
<211> 2709
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (2595)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (2622)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (2659)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (2670)
<223> n equals a,t,g, or c

<400> 173
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<210> 174
<211> 1013
<212> DNA
<213> Homo sapiens

<400> 174
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cctccgggca atgcctgtcc cgcctcatgc tggaggctgc ctcgggcacc tgcctgccca 960
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<210> 175
<211> 1697
<212> DNA
<213> Homo sapiens

<400> 175
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atcacgcccc tgtggatcat cactgctgca cactgtgttt atgacttgta cctccccaag 180
tcatggacca tccaggtggg tctagtttcc ctgttggaca atccagcccc atcccacttg 240
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aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1680
aaaaaaaaaa aaaaaaa 1697

<210> 176
<211> 1409
<212> DNA
<213> Homo sapiens

<400> 176
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cccgggctgc aggaattccg ctgctggcct ggggttgtgg ttgaggccgg gtctccgctc 180
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cccaggaact tggttatggt tgtctcaagt tcggcggtca ggcctacagc gacgtggaac 540
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actccttctt cctgggatgt tttggtgtgg atcgattctg tttgggacac actggcactg 720
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tgctaattac tggagggctg atgccaagtg atggcagcaa ctggtgcact gtttactaaa 840
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aaaaaaaaaa aaaaaaaaaa aaactcgag 1409

<210> 177
<211> 1503
<212> DNA
<213> Homo sapiens

<400> 177
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tgttccacct gacagtgttt gtctttcata gactttccag aatagacata gtcaagatca 180
gacacgtgag cttctctctc attttaatgt gaggaaaatc atctttcaga gacaaggcac 240
cgcttagaaa tgtatgtcca ggtatgaaag aacctttta aaatggctgg ttgttccaga 300
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ctcacagctt ttgtagactt atttgatttt gaaacaagca gttagctaaa tctattttcc 480
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aagttacaga gtgtttccta gatagaagat tagttcattt ggttcatttt gtctttgaag 660
caagccaagc tcatgagcca gttggttatt tgtcataaat gaacacccat cactatatgc 720
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ccaaaataca atttgcaaac cctaactcca gatgtgtcgt atgaatcttg acaaccaggt 840
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aaa 1503

<210> 178
<211> 1378
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (3)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (82)
<223> n equals a,t,g, or c

<400> 178
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actttattct tctggtgagc tccctgaata tttatttttc tgattataaa ttttctatat 180
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aactccttgg atttatttcc cattttaaaa tttttagcgg taagttcaga tttataatct 360
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cactgtgggt caaaaatatt tggggaaaaa aatggatggt tgcgcctttg ctgaacatgt 540
acaaactttt ttttgtcatt aaacaatata gtataacaac tatttacaaa gcatttacat 600
tgtattagct attataggta atctagagat gatttaaagt gtatggtagg atgtgcacag 660
gttatatgca aatactacac cattttctat aagggacttg aacatcatgg actttagtat 720
cctagggggt tcttggaacc catcacccat aggggcacca taggacaact atagtaccgt 780
gtttatttcc tattaattca ggttccgttt agagtctaaa actaaaacct aatcatttag 840
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gcacatactc aataaataaa tgactgcatt gttgtaaaaa aaaaaaaaaa aaaaaaaa 1378

<210> 179
<211> 2251
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (2020)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (2050)
<223> n equals a,t,g, or c

<400> 179
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ctcccgcgcc cccttcaccc cgacctggcc gcggagccgc gagcgtgaag ccgccgcctt 180
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cgccttctat ggaataaatc agttttccta tttgtttcct gaagagttta aagccattta 300
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tagtcgcttt cggtgacctg tccgtacgtt t 2251

<210> 180
<211> 1000
<212> DNA
<213> Homo sapiens

<220>

<221> misc feature
<222> (20)
<223> n equals a,t,g, or c

<400> 180
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gtccggggaa ggcgggagac agcgcagttt gaatcgcggt gcgacgaagg agtaggtggt 120
gggatctcac cgtgggtccg attagccttt tctctgcctt gcttgcttga gcttcagcgg 180
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tttcccgctc gcagagagcc ggcttgcagt tcccagtggg ccgtattcat cgacacctaa 300
aatctaggac gaccagtcat ggacgtgtgg gcgcgactgc cgctgtgtac agcgcagcca 360
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aaaaaaaaaa aaaaaaaaam maaaaaaggg gggggccccc 1000

<210> 181
<211> 1429
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (761)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1407)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1420)
<223> n equals a,t,g, or c

<400> 181
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gccccgcacg ggctgtctgg gtgtccgcca tccagggtct ggcagagcct ctgagatgat 120
gcatgatgcc ctcccctcag cgcaggctgc agagcccggc cccacctccc tgcgcccttg 180
aggggcccca gcgtctgcag ggtgacgcct garacagcac cactgctgag gagtgaggac 240
tgtcctccca cagacctgca gtgaggggcc ctccatgcgc agatgagggg ccactgaccc 300
acctgcgctt ctgctggagg aggggaagct gggcccaaag gccmgsgrag gcagcgtggg 360
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cagggctgtt ggaggacccc gagggctgag gagcagcagg acccgcctgc tcccatcctc 480
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<210> 182
<211> 2725
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (2713)
<223> n equals a,t,g, or c

<400> 182
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gttgccacag acataaatga atgcacagat tttgtagatg tcccttgtag ccacttctgc 660
aacaatttca ttggtggtta cttctgctcc tgcccccegg aatatttcct ccatgatgac 720
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agctgggtga atgaggtgct gggcccggag ctgccgaaat gtgttccagt ctgtggagtc 1500
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aatgacattg cactggtgcg gctgaaagac ccagtgaaaa tgggacccac cgtctctccc 1860
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cctgtagctc ctttaagaaa atgcaaagaa gtgaaagtgg agaaacccac agcagatgca 2040
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gactaatcca gatacatccc accagcctct ccaagggtgg tgaccaatgc attaccttct 2340
gttccttatg atattctcat tatttcatca tgactgaaag aagacacgag cgaatgattt 2400
aaatagaact tgattgttga gacgccttgc tagaggtaga gtttgatcat agaattgtgc 2460
tggtcataca tttgtggtct gactccttgg ggtcctttcc ccggagtacc tattgtagat 2520
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aaaaaaaaaa aanaaaaaaa aaaag 2725

<210> 183
<211> 1751
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (344)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (416)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1617)
<223> n equals a,t,g, or c

<400> 183
gggggcggca ggttgcggcg gcgccggagc gggtctccag gctggcgagc gcccaggaca 60
ggcatgttgt tgggactggc ggccatggag ctgaaggtgt gggtggatgg catccagcgt 120
gtggtctgtg gggtctcaga gcagaccacc tgccaggaag tggtcatcgc actagcccaa 180
gcaataggcc agactggccg ctttgtgctt gtgcagcggc ttcgggagaa ggagcggcag 240
ttgctgccac aagagtgtcc agtgggcgcc caggccacct gcggacagtt tgccagcgat 300

gtccagtttg tcctgaggcg cacagggccc agcctagctg ggangccctc ctcagacagc 360
tgtccacccc cggaacgctg cctaattcgt gccagcctcc ctgtaaagcc acgggntgcg 420
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cctgttgggg acaggagatg catggacagt gtgctcaagc tgtgggcatg tgcttgnctg 1620
cgggagaggt ccttcactgt gtgtacacag caagagcatg tgtgtgccac ttcccctacc 1680
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aaaaaaaaaa a 1751

<210> 184
<211> 2200
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (2096)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (2140)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (2157)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (2181)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (2184)
<223> n equals a,t,g, or c

<400> 184
ggcacgagca gcgacatact gaagggcaac ttctcaatcc gtacagccaa gatgcagcag 60
catgtgtgtg aaaccatcat ccgcatcttt aaaagacatg gagctgttca gttgtgtact 120
ccactactgc ttccccgaaa cagacaaata tatgagcaca acgaagctgc cctattcatg 180
gaccacagcg ggatgctggt gatgcttcct tttgacctgc ggatcccttt tgcaagatat 240
gtggcaagaa ataatatatt gaatttaaaa cgatactgca tagaacgtgt gttcaggccg 300
cgcaagttag atcgatttca tcccaaagaa cttctggagt gtgcatttga tattgtcact 360
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caagagtttc cagcacttca ggaaagaaat tacagtattt atttgaacca taccatgtta 480
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aatctgtctt tgtcttctaa tagtctgtgt cgactctaca agtttattga acagaaggga 660
gatttgcaag atcttatgcc aacaataaat tcattaataa aacagaaaac aggtattgca 720
cagttggtga agtatggctt aaaagaccta gaggaggttg ttggactgtt gaagaaactc 780
ggcatcaagt tacaggtctt gatcaatttg ggcttggttt acaaggtgca gcagcacaat 840
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ctcgcagytg gaggcagata tgacctgctg attccccagt ttagagggcc acaagctctg 960
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cagatgtcta tgtccagggc catcaaccta acccagaaac tctggacagc aggcatcaca 1140
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catgaaatca cctatgtggc ccttgtctcg gataaagaag gaagccatgt caaggttaag 1260
tctttcgaga aggaaaggca gacagagaag cgtgtgctgg agactgaact tgtggaccat 1320
gtactgcaga aactgaggac taaagtcact gatgaaagga atggcagaga agcttccgat 1380
aatcttgcag tgcaaaatct gaaggggtca ttttctaatg cttcaggttt gtttgaaatc 1440
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actaggaggc gctatgaaac tcaggtacaa actcgacttc agacctccct tgccaactta 1560
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agaatcttat tttaacccta aagaactgtc gttaacctca ttcaaacaga cagaggctta 1860
tactggaata atggaatgtt gtacattcat cataatttaa aattaaattc taagaagagg 1920
ctgggtgcag tggctcacac ctttaatccc agcactttgg gaagccaagg caggaagact 1980
gcttgaaacc aggagtttga gaccagcctg agcaacaaag caagacccca tctctataaa 2040
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tgagatggat catctgagcc tcaggaggtt gacgctgcan tgactgtgac tgcgccnctg 2160
actccatctg gggcaacaga ncangaccct gcttaaatac 2200

<210> 185
<211> 1987
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature

<222> (523)
<223> n equals a,t,g, or c

<400> 185
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gggccaaatt cgacacgaga cgcttctcgg cagacgcagc tcgattccag ataggaaaaa 120
ggaaatatga ctttgattct tcggaggtgc ttcagggact ggactttttt ggaaacaaga 180
agtctgtccc aggtgtgtgt ggagcatcac aaacacatca gaagccccaa aatggagaga 240
aaaaagaaga gagcctaact gaaaggaaga gggagcagag caagaaaaaa aggaagacga 300
tgacttcaga aattgcttcc caagaagaag gtgctactat acagtggatg tcatctgtag 360
aagcaaagat tgaagacaaa aaagttcaga gagaaagtaa actaacttcc ggaaagttgg 420
agaatctcag aaaagaaaag ataaacttct tgcggaataa acacaaaatt cacgtccaag 480
gaaccgatct tcctgaccca attgctacat ttcagcaact tgnaccagga atataaaatc 540
aattctcgac tacttcagaa cattctagat gcaggtttcc aaatgcctac gccaatccaa 600
atgcaagcca tcccagttat gctgcatggt cgggaacttc tggcttctgc tccaactgga 660
tctggaaaaa cattagcttt tagcattcct attttaatgc agctgaaaca acccgcaaat 720
aaaggcttca gagccctgat tatatcacca acacgagaac ttgccagcca gattcacaga 780
gagttaataa aaatttctga gggaacagga ttcagaatac acatgatcca caaagcagca 840
gtggcagcca agaaatttgg acctaaatca tctaaaaagt ttgatattct tgtgactact 900
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gagtggcttg tagtagacga atcagataaa ctgtttgaag atggcaaaac tgggttcaga 1020
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gttggatctg agaccggaaa acttctggcc gtgagagaac ttgttaaaaa gggtttcaat 1260
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aacacagtcc acagtttcag agcaggaaaa atctgggttc tgatttgtac agccttgcta 1440
gcaagaggga ttgattttaa aggtgtgaac ttggtgatca actatgactt tccaactagc 1500
tcagtggaat atatccacag gataggtcga actggaagag cagggaataa gggaaaagca 1560
attacatttt tcactgagga tgataagcca ttattaagaa gcgttgctaa tgttatacag 1620
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aagaaaaaga tgattaagaa accattggaa agggagagca ttagtacaac tccaaaatgt 1740
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gtagctcttg aagacaaaag ttaaaaacag actttaaaaa tactgtccca gaaatgtaat 1860
tttatgatcc cagcatgaat gttattttca tggaatactt gaagtcttac agtcacctgt 1920
accaaacatt tgaaatcaac tacaagtaca tgggactggt gataaatgat cctaaactat 1980
caagtca 1987

<210> 186
<211> 1737
<212> DNA
<213> Homo sapiens

<400> 186
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tgatcctggt taaaatggat gatttttcat tgaaagtttt gctgattaac aattaaagtg 120
ggatgatatg tggcaaaaat cacttatgaa agtagaagca agaatcagtt ggtttgctac 180
cacataaagc catgctgttt ttggtcaaac tgtgtaaact ggaaaaattc acatcatttc 240
tgagtttaat cactttagga tatattcaca ttgttttggt gaatttgctg aattgaattg 300
tttttctttc tcaaatctgt gatctctttt ctttatcctg tttctttgtt cctttcgttt 360

gctttcttat ttttcttttg ttccattctt ttcttacttt tttccctttt ccttttttgg 420
ggaggctggc tagtagtgtg tgagaaaaga atagaagtga aatttgcata atgaatgtaa 480
aagggaaata aaagtctttt gaaggtagct atactagcac ttttgatcat cttcagggcc 540
cacaaaaatg ttgtcaagat tttaaaggtt tataattctg cttaagctct agtttggact 600
taggtatcct aactatgttg gaggtatttg cattgtttaa agttaggata aaagcaagtt 660
cctcctgtga ctgcaacgtc ttactgattg ggacagttgc caggaggata ccaacttgat 720
agcagagggg gttttatgca aacgcactca cctccgcctt ggggaatgaa agggtcactt 780
ctgcatcatc actagctagt tttctagtgt tagagaggct tacaaatgtt tgccattctc 840
ataagtgttt tgaacttgat ctttgtgact tgtgcttttt tagcttctct cttgaatcag 900
agtatcattg tcttcctcca aggagttaga atttcccagt ttaaaacaaa aagggaaatg 960
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tcaagtttgt cttccgcact aagatgtgag gaaattgtga tttgttctct ccaccacaaa 1560
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<210> 187
<211> 1132
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (1131)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1132)
<223> n equals a,t,g, or c

<400> 187
ggcagagtgg acacctgcat caagaccaag tcgcagctga tgatgccagt ttcaaggccc 60
atgggcctgt ccccaacccc cagcccatcg acccagctag cctggaggag ttcaagagga 120
agatcctgga gtcccagagg ccccctgcag gcatccctgt agccccatcc agtggctgag 180
gaggctccag gcctgaggac caagggatgg cccgactcgg cggtttgcgg aggatgcagg 240
gatatgctca cagcgcccga cacaaccccc tcccgccgcc cccaaccacc cagggccacc 300
atcagacaac tccctgcatg caaaccccta gtaccctctc acacccgcac ccgcgcctca 360
cgatccctca cccagagcac acggccgcgg agatgacgtc acgcaagcaa cggcgctgac 420
gtcacatatc accgtggtga tggcgtcacg tggccatgta gacgtcacga agagatatag 480
cgatggcgtc gtgcagatgc agcacgtcgc acacagacat ggggaacttg gcatgacgtc 540
acaccgagat gcagcaacga cgtcacgggc catgtcgacg tcacacatat taatgtcaca 600
cagacgcggc gatggcatca cacagacggt gatgatgtca cacacagaca cagtgacaac 660

acacaccatg acaacgacac ctatagatat ggcaccaaca tcacatgcac gcatgccctt 720
tcacacacac tttctaccca attctcacct agtgtcacgt tccccgacc ctggcacacg 780
ggccaaggta cccacaggat cccatcccct cccgcacagc cctgggcccc agcacctccc 840
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ggccctgagc cgggggtgag ggtcacctgt tgtcgggagg ggagccactc cttctccccc 1020
aactcccagc cctgcctgtg gcccgttgaa atgttggtgg cacttaataa atattagtaa 1080
atccttaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa nn 1132

<210> 188
<211> 1267
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (12)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (25)
<223> n equals a,t,g, or c

<400> 188
ggggatggat gntctccttc agctntttg gagacactat agaaggtacg cctgcaggta 60
ccggtccgga attcccgggt tgatccacgc gtccgcccac gcgtccgccc acgcgtccgc 120
tggacggcag ctatgcgact caccgtgctg tgtgctgtgt gcctgctgcc tggcagcctg 180
gccctgccgc tgcctcagga ggcgggaggc atgagtgagc tacagtggga acaggctcag 240
gactatctca agagatttta tctctatgac tcagaaacaa aaaatgccaa cagtttagaa 300
gccaaactca aggagatgca aaaattcttt ggcctaccta taactggaat gttaaactcc 360
cgcgtcatag aaataatgca gaagcccaga tgtggagtgc cagatgttgc agaatactca 420
ctatttccaa atagcccaaa atggacttcc aaagtggtca cctacaggat cgtatcatat 480
actcgagact taccgcatat tacagtggat cgattagtgt caaaggcttt aaacatgtgg 540
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ctccttttaa ggataaactc ctttatggtg tgactgtgtc ttattcatct atacttgcag 1140
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aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1260
aaaaata 1267

<210> 189
<211> 3787
<212> DNA

<213> Homo sapiens

<220>
<221> misc feature
<222> (22)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (155)
<223> n equals a,t,g, or c

<400> 189
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tcagcctggc ttccactgcc tgccctgccc gccccgatac agagggaacc agcccgtcgg 120
ggtcggcctg gaagcagcca agacggaaaa gcaantgtgt gagcccgaaa acccatgcaa 180
ggacaagaca cacaactgcc acaagcacgc ggagtgcatc tacctgggtc acttcagcga 240
ccccatgtac aagtgcgagt gccagasagg ctacgcgggc gacgggctca tctgcgggga 300
ggactcggac ctggacggct ggcccaacct caatctggtc tgcgccacca acgccaccta 360
ccactgcatc aaggataact gcccccatct gccaaattct gggcaggaag actttgacaa 420
ggacgggatt ggcgatgcct gtgatgatga cgatgacaat gacggtgtga ccgatgagaa 480
ggacaactgc cagctcctct tcaatccccg ccaggctgac tatgacaagg atgaggttgg 540
ggaccgctgt gacaactgcc cttacgtgca caaccctgcc cagatcgaca cagacaacaa 600
tggagagggt gacgcctgct ccgtggacat tgatggggac gatgtcttca atgaacgaga 660
caattgtccc tacgtctaca acactgacca gagggacacg gatggtgacg gtgtggggga 720
tcactgtgac aactgccccc tggtgcacaa ccctgaccag accgacgtgg acaatgacct 780
tgttggggac cagtgtgaca acaacgagga catagatgac gacggccacc agaacaacca 840
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cgacgcctgt gaccctgatg atgacaacga tggcgtcccc gatgacaggg acaactgccg 960
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<210> 190
<211> 554
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (520)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (542)
<223> n equals a,t,g, or c

<400> 190

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<211> 874
<212> DNA
<213> Homo sapiens

<400> 191
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<211> 2103
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (140)
<223> n equals a,t,g, or c

<400> 192
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<210> 193
<211> 1317
<212> DNA
<213> Homo sapiens

<220>
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<222> (1314)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1315)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1316)
<223> n equals a,t,g, or c

<400> 193
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ctccagacct catgccttct gggacccaga catctctgca atctcgggaa ctggaataca 180
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<210> 194
<211> 1252
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (1231)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1240)
<223> n equals a,t,g, or c

<400> 194
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<210> 195
<211> 1688
<212> DNA
<213> Homo sapiens

<400> 195
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<210> 196
<211> 756
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (756)
<223> n equals a,t,g, or c

<400> 196
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<210> 197
<211> 1471
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (458)
<223> n equals a,t,g, or c

<400> 197
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aaattattaa taaaataaaa aaaaaaaaaa a 1471

<210> 198
<211> 692

<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (43)
<223> n equals a,t,g, or c

<400> 198
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ttttatctgc gttactacgt ggggcacaag ggcaagttcg gccacgagtt cctggagttt 180
gagtttcgac cggacgggaa gttaagatat gccaacaaca gcaattacaa gaatgatgtc 240
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ccaatctaga ctgaatattg gtgtggacat gggggtgggg tgggagtaga aaatttgtg 600
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aaatccaatt tttattattt tataaagacc tg 692

<210> 199
<211> 1573
<212> DNA
<213> Homo sapiens

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gaataggatt cttctcagtt tgaaagacaa tgaaaaatgg ttttgtatga cttgaatagt 420
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<210> 200
<211> 2742
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (26)
<223> n equals a,t,g, or c

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gccactggga agaagcagcc catgatcttg cccttgcctg taaattggat tatgatgaag 300
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gaaagtatga gcgaaaacgt gaagagcgag agatcaaaga aagaatagaa cgagttaaga 420
aggctcgaga agagcatgag agagcccaga gggaggaaga agccagacga cagtcaggag 480
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<210> 201
<211> 1417
<212> DNA
<213> Homo sapiens

<400> 201
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aatgtcatag gtatgcataa gatgactcca ccaattaaag atctgctgcc tagactcacc 180
cccatcttaa agaacagaca tgaaaaagta caagagaatt gtattgatct tgttggtcgt 240
attgctgaca ggggagctga atatgtatct gcaagagagt ggatgaggat ttgctttgag 300
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ggttatattg caaaggccat tggccctcat gatgtattgg ctacacttct gaacaacctc 420
aaagttcaag aaaggcagaa cagagtttgt accactgtag caatagctat tgttgcagaa 480
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<210> 202
<211> 1512
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (855)

<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1512)
<223> n equals a,t,g, or c

<400> 202
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aacttggaga gtactcgggt tcgtgaactt cccggaggcg caatgagctg cattaacctg 120
cccactgtgc tgccyggctc ccccagcaag acccgggggc agatccaggt gattctcggg 180
ccgatgttct caggaaaaag cacagagttg atgagacgcg tccgtcgctt ccagattgct 240
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aaaaaaaaaa an 1512

<210> 203
<211> 419
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (384)
<223> n equals a,t,g, or c

<400> 203
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tccggggagc ctggagctgg ggggaaggcc ggggacagcc cggccctgcc ccctccccg 120
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tgggcagggt cccgctggcc tggtgcttgg cgctgtgcgg ctggggcgtg catggccccc 240
aggggcacgc argctgaaga aagtcccttc gtgggcaacc cagggaatat cacaggtgcc 300

cggggactca cgggcaccct tcggtgtcag ctccaggttc agggagagcc ccccgaggta 360
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<210> 204
<211> 2833
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (2802)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (2822)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (2831)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (2832)
<223> n equals a,t,g, or c

<400> 204
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tgaggagcag ccagcgggag gcggcggcga gtcggtgagc agctgggaag agcagaaccg 120
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caagagcccc ccagtgctga gccacgaatt cgtcctgcag aatcacgcgg acatcgtctc 240
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<210> 205
<211> 5830
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (5584)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (5585)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (5821)
<223> n equals a,t,g, or c

<400> 205
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ggcgtcctgt tcctgatgca tgtgtgtggc accaaccgca ttccagagtc tggcggagac 240
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<210> 206
<211> 755
<212> DNA
<213> Homo sapiens

<220>

<221> misc feature
<222> (368)
<223> n equals a,t,g, or c

<400> 206
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ttgtcacccg cagccgggcc gaggccgagt cctggtaccg cagcaagtgt gaggagatga 180
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<210> 207
<211> 1996
<212> DNA
<213> Homo sapiens

<400> 207
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<210> 208
<211> 1668
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (1505)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1565)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1598)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1620)
<223> n equals a,t,g, or c

<400> 208
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<210> 209
<211> 2250
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (23)
<223> n equals a,t,g, or c

<400> 209
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aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 2250

<210> 210
<211> 838
<212> DNA
<213> Homo sapiens

<400> 210
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ctgggcgccg ctctccgccg ctgcgctgtg gccgcaacca cccgggccga ccctcgaggc 180
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gcggtgatta aataatgaaa gagttcgacg cggccgggaa tttaggaggt aaatatcc 838

<210> 211
<211> 1213
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (1206)
<223> n equals a,t,g, or c

<400> 211
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tttgctccgg cctcgtcgtg aagacacagc gcatctcccc gctgtaggct tcctcccaca 120
gaacccgttt cgggcctcag agcgtctggt gagatgctgt tgccgctgct gctgctgcta 180
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aaaaanaaaa aaa 1213

<210> 212
<211> 969
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (922)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (955)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (958)
<223> n equals a,t,g, or c

<400> 212
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gttgtatgta aaagctaagg aaaccttttc ttttggaaga tcagtataaa catgctgctt 180
ttggtaaaat tcttttgagc cattttcatc taaatataac ttctgtttca tttttttttc 240
taaatataac tcagagttta atgagggctt ttcacatgga acaagctttt gagagggcct 300
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tgacttgatt tgttataagt ttggaaggtt atagtttggt cacattcttc attgatcaca 480
cttttaggga ttcttgaaga aaagggaagc aaaacataca cacacacccc cacccaatct 540
aacagcgtat tcaagcagat tccacgaatc ctcggcccag gtttaaataa ggcaggaaag 600
ttcccttccc tgctcacaca caacgaaaac atggtggcca aagtggatga ggtgaagtcc 660
acaatcaagt tccaaatgaa gaaggtgtta tgtctggctg tagctgttgg tcacgtgaag 720
atgacagacg atgagcttgt gtataacatt cacctggctg tcaacttctt ggtgtcattg 780
ctcaagaaaa actggcagaa tgtccgggcc ttatatatca agagcaccat gggcaagccc 840
cagcgcctat attaaggcac atttgaataa attctattac cagttaaaaa aaaaaaaaaa 900

aaaaaaaaaa aaaaaaaaaa anaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaanccncg 960
ggggggggg 969

<210> 213
<211> 1694
<212> DNA
<213> Homo sapiens

<400> 213
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ccaggcgcgg cctccgccac agccacagcc cctgcccctg ctgcggcgcg gcgaggcgag 120
gcgatggcca aggtgtcggt gctgaacgtg gcggtcctgg agaacccgag ccctttccac 180
agccccttcc ggttcgagat cagcttcgag tgcagtgaag ccctggcgga cgacctggag 240
tggaagatca tttatgttgg ctcggctgag agtgaggaat ttgatcagat cctagactcg 300
gtgctggtgg gccctgtgcc agcagggaga cacatgtttg tctttcaggc cgacgccccc 360
aacccatccc tcatcccaga gactgatgcc gtgggtgtga ctgtggtcct catcacctgc 420
acctaccatg gacaggagtt catccgagtg ggctactacg tcaacaacga gtacctcaac 480
cctgagctgc gtgagaaccc gcccatgaag ccagatttct cccagctcca gcggaacatc 540
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aaaaaaaaaa aaaa 1694

<210> 214
<211> 1210
<212> DNA
<213> Homo sapiens

<400> 214
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ggcctgcagc tcgcgccgcc atggacgctg ccgaggtcga attcctcgcc gagaaggagc 120
tggttaccat tatccccaac ttcagtctgg acaagatcta cctcatcggg ggggacctgg 180
ggccttttaa ccctggttta cccgtggaag tgcccctgtg gctggcgatt aacctgaaac 240
aaagacagaa atgtcgcctg ctccctccag agtggatgga tgtagaaaag ttggagaaga 300
tgagggatca tgaacgaaag gaagaaactt ttaccccaat gcccagccct tactacatgg 360

aacttacgaa gctcctgtta aatcatgctt cagacaacat cccgaaggca gacgaaatcc 420
ggaccctggt caaggatatg tgggacactc gtatagccaa actccgagtg tctgctgaca 480
gctttgtgag acagcaggag gcacatgcca agctggataa cttgaccttg atggagatca 540
acaccagcgg gactttcctc acacaagcgc tcaaccacat gtacaaactc cgcacgaacc 600
tccagcctct ggagagtact cagtctcagg acttctagag aaaggcctgg tgcaggcggc 660
ttgctggggg atgtgagcgc tcaggacgtg atgaggtact cgtggttctg gagctctaga 720
aacacttctg atgcatgaaa aatgtgtgat ggtgcaagga atggattcag gatgttgttg 780
gagaaacaag tttgtgatta gtccttaaaa cttagctccc tgggacattc ttcaattcca 840
catctgtttc tagaaaccag ccctttttcc ccccactttt gagaaataaa aaagccttag 900
gtaaataagt cattctccct agcagagcca cttgggtctc ctgcatggaa gccatcacac 960
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tggctcacag agaaggatgg cagatggtgc agccaacaat gctgaccggt gcttatcctc 1140
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agagagagac 1210

<210> 215
<211> 1776
<212> DNA
<213> Homo sapiens

<400> 215
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tagctgcact aggtgattct tggagcgggc ctgagagaca aggacatgtg gatcccagtg 120
gtcgggcttc ctcggcggct gaggctctcc gccttggcgg gcgctggtcg cttttgcatt 180
ttagggtctg aagcggcgac gcgaaagcat ttgccggcga ggaaccactg tgggctctct 240
gactcctctc cgcagctgtg gcccgaaccg gatttcagga atccgccaag gaaggcgtct 300
aaggccagct tagactttaa gcgttacgta accgatcgga gattggctga gaccctggcg 360
caaatctatt tgggaaaacc aagtagacct ccacacctac tgctggagtg caatccaggt 420
cctggaatcc tgactcaggc attacttgaa gctggtgcca aagtggttgc gctcgaaagt 480
gacaaaactt ttattccaca tttggagtcc ttaggaaaaa atctggatgg aaaactacga 540
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gctatgtctt ctcgagggct ctttaagaat ttgggaatag aagcagttcc ttggacagca 660
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aaactcgcat atgacttgta ttcctgtact tctatatata aatttggacg aatagaagta 780
aatatgttta ttggtgaaaa agaattccag aaactaatgg cagatccygg aaatccagac 840
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cactgtttyg ggaggcgcag sgccactgta atagaccact tacgttcatt gactccactt 1140
gatgcgagag atatattgat gcaaatagga aaacaggagg atgagaaagt agttaacatg 1200
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cagcagaagg taactgttct tgtcttgcac aagccaggca gatcatttct cctaagctga 1440
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attattaagc ttagaaagta agcaaaactg atttactggt ttgcctttca gtttgttgaa 1680
atgtattgtc aagtactgta caatgaaatt gtttaaattt taatatgatt taagcttttt 1740

agaaattaaa atattttaaa taagaaaaaa aaaaaa 1776

<210> 216
<211> 1418
<212> DNA
<213> Homo sapiens

<400> 216
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agtccagggg agaagacaga agaagtagag aggcagggcc tggtgacagt atcagtgagt 120
gccatacaga attgtgtatt caccagcatc atgaaacagt tgtggtcttt tgagttgatc 180
ttggcagagt aaagggacgt gtcctggagc cattcctgaa tctccccttc tttgtgacag 240
ctcctcccac ccccccaaaa aataaaaaaa ccacaaaaaa caaaaaaaca aaactaaggc 300
acttcactta gagactggag tcctgcttat aatcatgcat ataaccttta ctttgatgga 360
tctggccaga ggggtgttgg agcccagccc acccacatac cagtcaagct cttaggggag 420
cagaagaaaa gcaggaagaa tttaaatgtt taattttttt tttaaattga cttttctagt 480
tattaaaagt tgcttgtttc agcagtgata ttgtataaag aacatcttgt aagatactcc 540
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tccctggctt ctccttcagc ccatccactc tcctctagag cagttgggtt ggaggctcat 660
tgaggcaagc agcaacattg gagggggagc agggcagtgc tgtgtctgct gcctcccatg 720
cccgttctga cctcagcctt ggaactcctc aagaacctga agattccagt ggtcagtgtc 780
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gattttgata aaagtacaaa acagggtttt tctttttat cacctttgaa tttggaaatt 960
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ttaaagggtg aacttgtaat aaattggaat ttcaaataaa cctcatgtac ttgtgtttat 1380
aaagaagaaa aaaaaaaaaa aaaaaaaaaa aaaaaaa 1418

<210> 217
<211> 2200
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (2188)
<223> n equals a,t,g, or c

<400> 217
gggcacgagg cccagttcct gttcccagac tgaggcccag ccccccttcgc ccgtttccat 60
cacgagtgcc gccagcatgt ctgacaaact gccctacaaa gtcgccgaca tcggcctggc 120
tgcctgggga cgcaaggccc tggacattgc tgagaacgag atgccgggcc tgatgcgtat 180
gcgggagcgg tactcggcct ccaagccact gaagggcgcc cgcatcgctg gctgcctgca 240
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gcagaccctg tacttcaagg acgggcccct caacatgatt ctggacgacg ggggcgacct 480
caccaacctc atccacacca agtacccgca gcttctgcca ggcatccgag gcatctctga 540
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gcctgccatc aatgtcaatg actccgtcac caagagcaag tttgacaacc tctatggctg 660
ccgggagtcc ctcatagatg gcatcaagcg ggccacagat gtgatgattg ccggcaaggt 720
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agaatagact gttaaggggc aactgagaaa gaacagagaa gtgacagcta ggggttgaga 1980
ggggccagaa aaacatgaat gcaggcagat ttcgtgaaat ctgccaccac tttataacca 2040
gatggttcct ttcacaaccc tgggtcaaaa agagaataat ttggcctata atgttaaaag 2100
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aaaraaaaaa aaaaaaaaaa aaaaaaanaa aaaaaaaaaa 2200

<210> 218
<211> 1853
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (890)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1794)
<223> n equals a,t,g, or c

<400> 218
gggaaggagt catggcggat ggtcaggtgg cggaactgct gctccggcgg ctggaggcgt 60
ctgatggcgg cctggacagc gccgagttgg cggctgagct gggcatggag caccaggcgg 120
tggtgggcgc cgtgaagagc cttcaggcgc tgggcgaggt catcgaggct gaacttcggt 180
ccaccaagca ctgggagctt actgcggagg gcgaggagat tgcccgggag ggcagccatg 240

aggcccgtgt gtttcgaagc attcccccag agggcctggc ccagagcgag cttatgcgac 300
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tgtgagggtg ggccctgagg agacctgtgg gccacctatt gtctaataaa gtgngcagtt 1800
gcccccaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaa 1853

<210> 219
<211> 1093
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (1090)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1091)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1092)
<223> n equals a,t,g, or c

<400> 219
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ccgagctgcc cctgcagcgc tggtcatggg cgagggcact tgtgagaagc gccgggacgc 120

cgagtatggc gccagcccgg agcaggttgc agacaatggc gatgaccact cagaaggagg 180
cctggtggag aaccacgtgg acagcaccat gaacatgttg ggcgggggag gcagtgctgg 240
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aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1080
aaaaaaaaan nna 1093

<210> 220
<211> 2155
<212> DNA
<213> Homo sapiens

<400> 220
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ttgggctcag tctccacccc acagtggggc ggatccgtcc cggataagac ccgctgtctg 120
gccctgagta gggtgtgacc tccgcagccg cagaggagga gcgcasccgg cctcgaagaa 180
cttctgcttg ggtggctgaa ctctgatctt gacctagagt catggccatg gcaaccaaag 240
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cgcccacggt gctgtatgac gtgcaagagc tgcgaagggc catgaaggga gccggcactg 540
atgagggctg cctaattgag atcctggcct cccggacccc tgaggagatc cggcgcataa 600
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cgttcatgtt ccagcgagtg ctggtgtctc tgtcagctgg tgggagggat gaaggaaatt 720
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<220>
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<222> (125)
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<211> 2085
<212> DNA
<213> Homo sapiens

<400> 222
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<210> 223
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<213> Homo sapiens

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<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (2920)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (2921)
<223> n equals a,t,g, or c

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<211> 4395
<212> DNA
<213> Homo sapiens

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<220>
<221> misc feature
<222> (4382)
<223> n equals a,t,g, or c

<220>
<221> misc feature

<222> (4391)
<223> n equals a,t,g, or c

<400> 224
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<212> DNA
<213> Homo sapiens

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<223> n equals a,t,g, or c

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<400> 226

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<210> 227
<211> 2239
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (2238)
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<400> 227
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<211> 2346
<212> DNA
<213> Homo sapiens

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<211> 2246
<212> DNA
<213> Homo sapiens

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<222> (2235)
<223> n equals a,t,g, or c

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<212> DNA
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<212> DNA
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<221> misc feature
<222> (853)
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<400> 231

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<210> 232
<211> 486
<212> DNA
<213> Homo sapiens

<220>

<221> misc feature
<222> (49)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (440)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (485)
<223> n equals a,t,g, or c

<400> 232
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ggcgrggggyt ctggstgckg cayggttctg gggctgctg ctgatccaga tcctgatgct 420
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gaagnc 486

<210> 233
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<212> DNA
<213> Homo sapiens

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taagtctttt ggaggacgaa caactggagg ttcgagaaat ggctgctact accttaagcg 180
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<210> 234
<211> 516
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (490)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (498)
<223> n equals a,t,g, or c

<400> 234
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ctccaacccg gggtgcctct gctgtggtcc ttcggtgtga aggcgagtsc tggctctttg 180
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<210> 235
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<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (807)
<223> n equals a,t,g, or c

<400> 235
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gagaggaggg gcaggaccag atcttttgag agctgagggt tgagggcatt gagccaacac 180
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aatggaactg aggaagatta taactttgtc ttcaaggtgg tgctgatcgg cgaatcaggt 300
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accaccatcg gggttgagtt ctccacccgc actgtgatgt tgggcaccgc tgctgtcaag 420
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<210> 236
<211> 1045
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (973)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1001)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1014)
<223> n equals a,t,g, or c

<400> 236
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<210> 237
<211> 690
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (666)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (678)
<223> n equals a,t,g, or c

<400> 237
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cggcactggc ctttgacctc tccaaggtac caggcccaga ggcagccccc aggctgyggg 180
cgctgacact gggcctggca aaacgcgtgt ggagcctgga gcggcgactg gcagctgcag 240
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aaaaaaaaaa aaaaaaaaaa agtttttttt aattttaagg cgggccaaag tttttttttcc 660
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<210> 238
<211> 1873
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (568)
<223> n equals a,t,g, or c

<400> 238

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<210> 239
<211> 905
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (873)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (874)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (897)

<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (898)
<223> n equals a,t,g, or c

<400> 239
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gacccagcag ggcgcggcgc tgcagaacta caacaacgag ctggtcaagt gcatagagga 120
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ggggg 905

<210> 240
<211> 1484
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (1457)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1471)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1480)
<223> n equals a,t,g, or c

<400> 240
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agatatacaa atatacagat atacaaataa gggtgaagat ggagggaatc tgataaagac 180
atcttataaa ttcaacagac acaaaagaat ttgatctccc ataagcaact gtgaaattac 240
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<210> 241
<211> 1521
<212> DNA
<213> Homo sapiens

<400> 241
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ggtttgtgtg tttctgtttt gtttctctcc ccctgcaggg ctgtttkcgg ggtggggtgg 180
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aagaatctat cattgtaata ttaacagtca aggtgttatt tgcttggaca tattgaaaga 600
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<210> 242
<211> 1144
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (1093)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1105)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1106)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1139)
<223> n equals a,t,g, or c

<400> 242
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tcccagagga gcaggaatta gaagcttatg tagatgatat agatattgat agtgatttca 180
gaaaggatga tttttattac ttgtctcaag aagacaaaga gagacagaag cgtgagcatg 240
aagaatccaa gagggtgctc caagaattaa aatctgtgct gggatttaaa gcttcagagg 300
cagaaaggca gaagtggaag caacttctat ttagtgatca tgtgtttctt catatagctt 360
taaaattatg ctattgacat tatgggaaag atttatcaat gagagaaatg tgtctctttt 420
tcagccgtgt tgaaatcctt gtctcctgta gacccagtgg aacccataag taattcagaa 480
ccatcaatga attcagatat gggaaaagtc agtaaaaatg atactgaaga ggaaagtaat 540
aaatccgcca caacagacaa tgaaataagt aggactgagt atttatgtga aaactctcta 600
gaaggtaaaa ataaagataa ttcttcaaat gaagtcttcc cccaaggagc agaagaaaga 660
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cccg 1144

<210> 243

<211> 934
<212> DNA
<213> Homo sapiens

<400> 243
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cccgaacacc atcatgtgga gacatttgca attttcctcc taaaattgcc catgggcatt 180
ataaacaatc tagttcatac agctttttca aagaagagat tatatatgaa tgtgataaag 240
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aatgtatgta taaaaaaaaa aaaaaaaaac tcga 934

<210> 244
<211> 915
<212> DNA
<213> Homo sapiens

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<221> misc feature
<222> (210)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (243)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (244)
<223> n equals a,t,g, or c

<400> 244
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gaccaccacc agctgcgctc actgactggc ctcatccgaa acctgtctcg gaacgctagg 180
aacaaggacg agatgtccac gaaggtggtn gagccacctg atcgagaagc tgccrggcas 240
gtnngggtga gaagtygccc ccagccgagg tgctggtcaa catcatagct gtgctcaaca 300
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<210> 245
<211> 1276
<212> DNA
<213> Homo sapiens

<400> 245
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tgcatgtggt agaatttaat ccctttgaga atggggattc aggaaaccta attgcatatg 240
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aaggcattca gtataaaaca cttcgaacat ttcaccatgg agtcagggtt gatggcatag 360
cttggagccc agagactaga cttgattcat tgcctccagt aatcaaattt tgtacttcag 420
ctgctgatat gaaaattaga ttatttactt cagatcttca ggataaaaat gaatataagg 480
ttttagaggg ccataccgat ttcattaatg gtttggtgtt tgatcccaaa gaaggccaag 540
aaattgcaag tgtgagtgac gatcacacct gcaggatttg gaacttggaa ggagtgcaaa 600
cagctcattt tgttcttcat tctcctggca tgagtgtgtg ctggcatcct gaggagactt 660
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<210> 246
<211> 3366
<212> DNA
<213> Homo sapiens

<400> 246
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ttctgcagtc gtgtcattga tgaagaactc aacccacagt ggggagagac ttatgaggtg 360
atggtacacg aggtcccagg gcaggagatt gaagtggagg tgttcgacaa ggatccagat 420

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<210> 247
<211> 2148
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (1259)
<223> n equals a,t,g, or c

<400> 247
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cgtggcgcca gcggaggcag gttgmtgtgt ttgtgcttcc ttctacagcc aatatgaaaa 180
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aaaaagaaga tacctattaa aaaaaaaaaa aaaaaaaaaa aaaaaaa 2148

<210> 248
<211> 2225
<212> DNA

<213> Homo sapiens

<220>
<221> misc feature
<222> (14)
<223> n equals a,t,g, or c

<400> 248
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ggccactctt attttggwgc cacacttaat agcttcatcc acgtcctcat gtactcttac 120
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tgctctcttc acaaacttct acattcagac ctacaacaag aaaggggcct cccgaaggaa 360
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aaaaa 2225

<210> 249
<211> 1204
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (1197)
<223> n equals a,t,g, or c

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aaaa 1204

<210> 250
<211> 1314
<212> DNA
<213> Homo sapiens

<400> 250
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ccttcgcttg ctcagagtca ttggaaaaac cactgaactg gctacttttt aattactatt 180
tgacaacctg ccttcagtct tcagttaata agcaccgaca tatgtttgta aaacaagttg 240
atatggatca tgtcatgaag gctaaatcca tcagagagtt tgataagcga ttcacttcag 300
tcatgtttgg ataccaaaca attgatgatt attatactga tgccagtccg agtcctagac 360
tgaagtcagt aggaattcca gtattgtgtc taaattctgt ggatgatgtt ttctcaccca 420
gtcatgctat tccaatagaa actgctaagc aaaatcctaa tgttgctttg gtccttactt 480
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atcgtgtctt caagcaattt gtgcaagcca tggttgagca tggacatgaa ctctcttaac 600
atgtagttct ttgggtgcat tttgtctgaa ccacaattgt gaaggcagct cagcttagtg 660
cacaaatttt aactgttgta tataaagcaa ataagccagc agatgggtga agaggtccag 720
aatgatatgc aaaaactact ttttagagaa acaaaacaac tttgtagcaa caaattaaat 780
atagtattag attgttactt acgtagattt tatttttact atgccttacc aagtacatcc 840
ttaaacaaag tagtatgtac atgaaattgc acttaaccaa aactattgtg taaaacaaat 900
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acaacgtgct aaatctttta tgtattctaa ctttaaaaga caagtgcaac aaagttagac 1140
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<210> 251
<211> 1159
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (1132)
<223> n equals a,t,g, or c

<400> 251
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ttcagctctt cattcttcaa ggcctgacct tgtctgaccc ttgtgcctct aaacccgtgg 600
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cagaccatct caactcaga 1159

<210> 252
<211> 2488
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (7)
<223> n equals a,t,g, or c

<220>
<221> misc feature

<222> (64)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (2334)
<223> n equals a,t,g, or c

<400> 252
tgtatgncca gctggtactc ctgcaggtac cggtccggat tcccgggtcg acccacgcgt 60
ccgnggacgc gtgggttgct cggcagcttg caaagcctga caacaccttg tttgtaaaca 120
gaacactttt tgatcaggtc cttgaattcc tttgtagtcc tgacgatgac tcccgacact 180
ctgaaagaca gcaggtcctt ttagaattgc tgcaggctgg aggcatagtt caatttgaag 240
agagtcgact catccggatg gcagaaaaag ctgagttcta tcaaatttgt gaatttatgt 300
atgaaagaga acaccaatat gacaaaatta ttgattgcya cttacgtgac cctctgcgag 360
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agaagcagtc tgtatggcag aaagcaatgg atcatattga ggaacycgkg kccctgaagc 480
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<210> 253
<211> 1554
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (6)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (81)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1496)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1523)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1535)
<223> n equals a,t,g, or c

<400> 253
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cgggtcgacc cacgcgtccg nggacgcgtg ggttctggtt ttgctctagt gtttgggttt 120
cttcgcggct gctcaagatg aaccgactct tcgggaaagc gaaacccaag gctccgccgc 180
ccagcctgac tgactgcatt ggcacggtgg acagtagagc agaatccatt gacaagaaga 240
tttctcgatt ggatgctgag ctagtgaagt ataaggatca gatcaagaag atgagagagg 300
gtcctgcaaa gaatatggtc aagcagaaag ccttgcgagt tttaaagcaa aagaggatgt 360
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ccatccagtc tttgaaggac accaagacca cggttgatgc tatgaaactg ggagtaaagg 480
aaatgaagaa ggcatacaag caagtgaaga tcgaccagat tgaggattta caagaccagc 540
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taaaactaag gaaatggaat cttaaaagtc tatgacagtg taactctaca gtctcaaaat 1140

gacctgataa attgataaga caaagatgag attattgggg ctgttcatat tatgattcag 1200
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aattatgaat atttcttgat atttaatgta taggacattt atttatactc aataaatatt 1440
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<210> 254
<211> 1506
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (43)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1492)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1501)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1506)
<223> n equals a,t,g, or c

<400> 254
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gcagctgcgg caagtgctgg cggcggctgc tcgcgcaagt cagctggcgt gggaactacc 120
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tccctaggac tgctgtaagc tttgagcctc tagcaggaga catgcctcgg ggacgaaaga 300
gtcggcgccg ccgtaatgcg agagccgcag aagagaaccg caacaatcgc aaaatccagg 360
cctcagaggc ctccgagacc cctatggccg cctctgtggt agcgagcacc cccgaagacg 420
acctgagcgg ccccgaggaa gacccgagca ctccagagga ggcctctacc acccctgaag 480
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ncccgn 1506

<210> 255
<211> 654
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (8)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (632)
<223> n equals a,t,g, or c

<400> 255
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cccacgcgtc cgatctttcc gcgccggtga gtagcactct ctgagagctc caatttcatc 120
cgtctgccat cggcgccatc ctgcaatcta agccacaatg gtgcgcatga atgtcctggc 180
agatgctctc aagagtatca acaatgccga aaagagaggc aaacgccagg tgcttattag 240
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cgaatttgaa atcattgatg accacagagc tgggaaaatt gttgtgaacc tcacaggcag 360
gctaaacaag tgtggggtga tcagccccag atttgacgtg caactcaaag acctggaaaa 420
atggcagaat aatctgcttc catcccgcca gtttggtttc attgtactga caacctcagc 480
tggcatcatg gaccatgaag aagcaagacg aaaacacaca ggagggaaaa tcctgggatt 540
ctttttctag ggatgtaata catatattta caaataaaat gcctcatgga caaaaaaaaa 600
aaaaaaaaaa aaaaaagggs ggsggtctag anggtccaag cttacgtacg cgtg 654

<210> 256
<211> 1992
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (558)
<223> n equals a,t,g, or c

<400> 256
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gtacaactgg cagtatgtgc actgcctctt cctgtggtgc cgggtcctga gcactgcggg 120

ccccagcgaa scctccagcc cttggtctac ccccttgccc aagtcatcat tggctgtatc 180
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ccccaagcgc tg 1992

<210> 257
<211> 2273
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (2271)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (2273)
<223> n equals a,t,g, or c

<400> 257
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cgcggcgtcc cccaccctaa gtcccacctc cggccgggca tgggtacccg ggcgggcctg 120

gctcggcctg ggcccactca ctggtccaga agcagctgta ggtgcccacc aagcccatga 180
cgacgctgct ggccagggtc cagccctatt caggcaggag ctgctcttct ggggtatcgc 240
gatccactta aggatgaggc agacttggtg acaagctggt ctgagcagcg cttccagagc 300
cagaactgag cccagtgaga gcgcaccctg ggcagcctg gattcctggg gtgtccccgg 360
cagccacaca cagccatgca ctacccaact gcactcctct tcctcatcct ggccaatggg 420
gcccaggcct ttcgcatctg cgccttcaat gcccagcggc tgacactggc caaggtggcc 480
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gggacgctag aagggtcatg tgttaactat aatcacattt atggtttgga accatcaccc 2160
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<210> 258
<211> 1504
<212> DNA
<213> Homo sapiens

<400> 258
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tattcaggga ttttttaaa aagtcaatca gaaaagggat actggagctt cttcatgtat 180
gtaacagcat attaaactgg agacagtgat gaatcagcta caaaggtaat attgtattaa 240
aatcatgttt aagatagctg cttttatgtg tattttatat tgcatgcttt tgtaaaaaca 300
tgctgggtga tgaaagatta gttttagaga gaaaatgttc atctgtgcag aggatgcatt 360
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ctattaatag aacctttga gatgaattaa tgtaagaata tttttaaat aggcttactg 480

tcaaattgca acttttttt tagatacaga gtggaaaaca gtgctaagtc atttggcacc 540
tccttacaaa tatttttcat ggtcacattt attaaatgtt actacatttc tgaattttg 600
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ttcagaaaat ggactgaagt ctgaataagg tcattgcatt taaaaagcat ataactgtac 720
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aaaa 1504

<210> 259
<211> 1792
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (107)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (487)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1306)
<223> n equals a,t,g, or c

<400> 259
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tgttccgaat aaaggccatc aggctgggag agaagctcct gccggcnttc aacaccccca 120
cgggaatccc aaagggcgtg gtgagcttca aaagtgggaa ctggggctgg gccacagccg 180
gcagcagcag catcttggcg gagtttggat ccctgcactt ggaattctta cacctcactg 240
aactctctgg caaccaggtc ttcgctgaaa aggtcaggaa catccgcaag gtcctcagga 300
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tggcgagggg ggattctgga ccacaagatg gggcacctgg cctgtttctc cgggggcatg 600
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acactgaccc tatgttcaac tttgtgtcat ttaccttata atttgaggag gggtttccct 1680
ttgggcctca gtgttacaaa ttactagtgc tattttcatt attattgtaa tggaaaaatc 1740
tgtggactag aataaaagag tttattgaat aagaaaaaaa aaaaaaaaaa aa 1792

<210> 260
<211> 2048
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (66)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (67)
<223> n equals a,t,g, or c

<400> 260
atccctttttg atccgggcct gggctgagtg ctcccccccgg gcttcaggtg acgcggcccc 60
gcgganntgg ggtcgcccga gttgggctgg ggaagccagg gacggaggtg tccggccgtc 120
acccctagag gagggcgtgc gggggtctgt tttgcatgcg agccacccct ctggctgctc 180
ctgcgggttc cctgtccagg aagaagcggt tggagttgga tgacaactta gataccgagc 240
gtcccgtcca gaaacgagct cgaagtgggc cccagcccag actgcccccc tgcctgttgc 300
ccctgagccc gaggagggcg ggcgggccta ccaggcctgc actgccctac aggcactgag 360
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tgccccccgca caagcatgtg gctcggccca ctgaggtcct ggctggtacc cagctcctct 480
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ccctgagcct gaggctgccg tgctcttccg ccagatggcc accgccctgg cgcactgtca 600
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aactcgac 2048

<210> 261
<211> 1282
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (1244)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1261)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1265)
<223> n equals a,t,g, or c

<400> 261
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tagtgccagc tacggtccgc ggctggggtt ccctcctccg tttctgtatc cccacgagat 120
cctatagcaa tggaactcag cgatgcaaat ctgcaaacac taacagaata tttaaagaaa 180
acacttgatc ctgatcctgc catccgacgt ccagctgaga aatttcttga atctgttgaa 240
ggaaatcaga attatccact gttgcttttg acattactgg agaagtccca ggataatgtt 300
atcaaagtat gtgcttcagt aacattcaaa aactatatta aaaggaactg gagaattgtt 360
gaagatgaac caaacaaaat ttgtgaagcc gatcgagtgg ccattaaagc caacatagtg 420
cacttgatgc ttagcagccc agagcaaatt cagaagcagt taagtgatgc aattagcatt 480
attggcagag aagattttcc acagaaatgg cctgacttgc tgacagaaat ggtgaatcgc 540

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aaaagatacc gtcatgaatt taagtcaaac gagttatgga ctgaaattaa gcttgttctg 660
gatgcctttg ctttgccttt gactaatctt tttaaggcca ctattgaact ctgcagtacc 720
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aattcaattt ctggcttcag tttgtgagag acctcattat aagaatctat ttgaggacca 1140
gaacacgctg acaagtatct gtggaaaagg ttattgtgcc taacatggga tttagagctg 1200
ctgatggaag aagcattgaa gtaattctga ggggttacag aggngagatt tggaagggtc 1260
nggtnttggt actagacgca gg 1282

<210> 262
<211> 599
<212> DNA
<213> Homo sapiens

<400> 262
ggcacgagcc ccggcagagg cggargcgga gtcggcctga gaggtctctc gtcgctgcag 60
gcgcctcagc ccagccgcgt gccttggccc atggccgcct actcttaccg ccccggccct 120
ggggccggcc ctgggcctgc tgcaggcgcg gcgctgccgg accagagctt cctgtggaac 180
gttttccaga gggtcgataa agacaggagt ggagtgatat cagacaccga gcttcagcaa 240
gctctctcca acggcacgtg gactcccttt aatccagtga ctgtcaggtc gatcatatcc 300
atgtttgacc gtgagaacaa ggccggcgtg aacttcagcg agttcacggg tgtgtggaag 360
tacatcacgg actggcagaa cgtcttccgc acgtacgacc gggacaactc cgggatgatc 420
gataagaacg agctgaagca ggccctctma gtttcggcta ccggctctct kaccagttcc 480
acgacatcct cattcgaaag kttgacaggc argggacggg gcaratcgsc ttcgacgast 540
taatccaagg ctggcatggc ctgcagaggt ttacggatat attcaaaggt ttcggcacg 599

<210> 263
<211> 1261
<212> DNA
<213> Homo sapiens

<400> 263
ggcacgaggt tgttcggagc gggcgagcgg agttagcagg gctttactgc agagcgcgcc 60
gggcactcca gcgaccgtgg ggatcagcgt aggtgagctg tggccttttg cgaggtgctg 120
cagccatagc tacgtgcgtt cgctacgagg attgagcgtc tccacccagt aagtgggcaa 180
gaggcggcag gaagtgggta cgcaggggcg caaggcgcac agcctctaga cgactcgctt 240
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tcttctgtgc ttcaccatct acataatgaa tcccagtatg aagcagaaac aagaagaaat 360
caaagagaat ataaagaata gttctgtccc aagaagaact ctgaagatga ttcagccttc 420
tgcatctgga tctcttgttg gaagagaaaa tgagctgtcc gcaggcttgt ccaaaaggaa 480
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ccgcctgaaa aaggagaata aagaactggc agaagtagca gaacatgtac agtatatggc 780
agagctaata gagagactga atggtgaacc tctggataat tttgaatcac tggataatca 840

ggaatttgat tctgaagaag aaactgttga ggattctcta gtggaagact cagaaattgg 900
cacgtgtgct gaaggaactg tatcttcctc tacggatgca aagccatgta tatgaaatgc 960
attaatattt gactgttgag aattttactg ccgaagttta cctccactag ttctttgtag 1020
cagagtacat aactacataa tgccaactct ggaatcaaat ttccttgttt gaatcctggg 1080
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aggattttct cagttgtcag ccatgactta tgtttattac taaataaact tcaaactcct 1200
gttgaacatt gtgtataact tagaataatg aaatataagg agtatgtgta gaaaaaaaaa 1260
a 1261

<210> 264
<211> 1020
<212> DNA
<213> Homo sapiens

<400> 264
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acagaagggt cctgctcaaa taacactggg tgctatattg atgggtaaat gtgtacatcc 120
tattccttcc tctttatctc acaattttg tctccactaa gcaagaagta aactaacact 180
tcgtcactct aaagaaataa cttatgtaaa actcttagta accctgtttg tcttcaaatg 240
agtaaataga ccaaagtggg gggacaattt tctagttctg tagagggaaa aacatctgag 300
tcaacatttt gaaatgcaga gggtattggt acatgacgac atggaaaagg gcacttttaa 360
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tcagagagca aaaagaagtc acaatagttt gggagaaaaa gtagtatggt gagtaaggtt 540
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acactgccaa cacgtcaatt ttttaaaaag cgtgggccac attgctaaga atttgttaaa 660
gcataactgt attttttgtt ttagggcctt attgatgttt tgccgttcca atgtatgcat 720
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<210> 265
<211> 571
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (557)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (565)
<223> n equals a,t,g, or c

<400> 265
ctttacggca sgmgtccgcg tcgctagcta gtcgttctga agcggcggcc agagaagagt 60
caagggcacg agcatcgggc catgcctttc ttggacatcc agaaaaggtt cggccttaac 120

atagatcgat ggttgacaat ccagagtggt gaacagccct acaagatggc tggtcgatgc 180
catgcttttg aaaaagaatg gatagaatgt gcacatggaa tcggttatac tcgggcagag 240
aaagagtgca agatagaata tgatgatttc gtagagtgtt tgcttcggca gaaaacgatg 300
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tctggaggct gattttcctg ttctctgttc tccactggaa aggttgttta cgacaaacct 480
ccttgtcaaa gtgtgtaaaa ataaaggatt gctccatcct aaaaaaaaaa aaaaaaaaaa 540
aaaatttggg gggggncccc cgtancccat t 571

<210> 266
<211> 1350
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (204)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1313)
<223> n equals a,t,g, or c

<400> 266
tgccgccatc gtcgtggggc ttctggggca gctagggctg cccgccgcgc tgcctgcgcc 60
ggaccggggc gggtccagtc ccgggcgggc cgtcgcggga gagaaataac atctgctttg 120
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tggcrtgaag gacaaggtca cccttgtggt tggagcgtcc caggacatca tcccccagct 720
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tgacttcttt actaacactg gctagctata ttatcttata tactaatatc atgttttaaa 1260
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tccaagctta acgtaagcgt gcatgggaag 1350

<210> 267
<211> 1319

<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (7)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (61)
<223> n equals a,t,g, or c

<400> 267
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<211> 3694
<212> DNA
<213> Homo sapiens

<220>
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<223> n equals a,t,g, or c

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<211> 1242
<212> DNA
<213> Homo sapiens

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<223> n equals a,t,g, or c

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<221> misc feature
<222> (31)
<223> n equals a,t,g, or c

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<221> misc feature
<222> (46)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (460)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1233)
<223> n equals a,t,g, or c

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<210> 270
<211> 2057
<212> DNA
<213> Homo sapiens

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<222> (22)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (2053)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (2054)
<223> n equals a,t,g, or c

<400> 270
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<210> 271
<211> 960
<212> DNA
<213> Homo sapiens

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<221> misc feature
<222> (4)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (31)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (951)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (956)
<223> n equals a,t,g, or c

<400> 271
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<211> 1167
<212> DNA
<213> Homo sapiens

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<210> 273
<211> 2771
<212> DNA
<213> Homo sapiens

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<222> (16)
<223> n equals a,t,g, or c

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<221> misc feature
<222> (27)
<223> n equals a,t,g, or c

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<222> (42)
<223> n equals a,t,g, or c

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<222> (2717)
<223> n equals a,t,g, or c

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taagccgaat t 2771

<210> 274
<211> 1889
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (15)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (57)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (87)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (113)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1676)
<223> n equals a,t,g, or c

<400> 274
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aatagaccag cctgcaggaa ctggcacact gtcgagaaca aatcctccta ctcagaaacc 180
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cattataaac tttttccatt cataaataca taagtgaacc aaaggttttt gtcctttcct 1800
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aaaaaaaaaa aaaaaataaa aaaaataaa 1889

<210> 275
<211> 604
<212> DNA
<213> Homo sapiens

<400> 275
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tcctgccatc ctctcaacag ctctgtgggg tgggtcctcc cccatacctg atgcaccgac 180
cacacagtgg aaagtgacaa agccagcgcc ttgccccagg ccccgcaggg tggagcccgt 240
ctgctcaggg ttgcaggccc agattctcca ctgctaccga gatcgcccgc atgaggtgct 300
gctgtgctcg gacctggtca aggcatacca gcgctgcgtg agcgccsccc acaagggctg 360
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atgggaccac agccactgtg ccctgccgtt tcctgctggg cccctgcata tgcccctgag 480
cctggggctg ccacgtgttt aggaaacaaa gtatgcgcta ctgtctgaaa acaaataaag 540
cagatgcctt tgttttcaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 600
aaag 604

<210> 276
<211> 1381

<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (1348)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1349)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1350)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1358)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1359)
<223> n equals a,t,g, or c

<400> 276
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agagcaaaat cttgaaagtc attcgcaaaa acattgttaa gaagtgcctt gagctcttct 120
ctgagctggc agaagacaag gagaattaca agaaattcta tgaggcattc tctaaaaatc 180
tcaagcttgg aatccacgaa gactccacta accgccgccg cctgtctgag ctgctgcgct 240
atcatacctc ccagtctgga gatgagatga catctctgtc agagtatgtt tctcgcatga 300
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cagcttttgt ggagcgagtg cggaaacggg gcttcgaggt ggtatatatg accgagccca 420
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tgggctatat gatggccaaa aagcacctgg agatcaaccc tgaccacccc attgtggaga 780
cgctgcggca gaaggctgag gccgacaaga atgataaggc agttaaggac ctggtggtgc 840
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cagaggaacc caatgctgca gttcctgatg agatcccccc tctcgagggc gatgaggatg 1020
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gtttatttta ttttcttcat tttgttctga aattaaagta tgcaaaataa agaatatgcc 1320

gtttttatac aaaaaaaaaa aaaaaaannn gggggggnng ccccggtccc matttccccc 1380
c 1381

<210> 277
<211> 1149
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (680)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1088)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1098)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1140)
<223> n equals a,t,g, or c

<400> 277
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atgtcaaaag gcactgatga agatattttc tctggagtct ccttctttct aacccggctc 180
tcccgatgtg aaccgagccg tcgtccgccc gccgccgccg ccgccgccgc cgccgcccgc 240
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gggagctcca gaaggggatc atgacctcct cacctgtggg cagtgccaga tgaacttccc 420
attgggggac attcttattt ttatcgagca caaacggaaa caatgcaatg gcagcctctg 480
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caatcccgtg gaggttggca tccaggtcac gccagaggat gacgattgtt tatcaacgtc 600
atctagagga atttgcccca aacaggaaca catagcagat aaacttctgc actggagggg 660
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aatatgcccc gcaggtattt gtaaagatga gcccagcagc tacacatgta caacttgcaa 780
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cccaccgnat agagcgcntg gggggcggta aggagatggg cctggggcaa acccttcaan 1140
ccgagttgc 1149

<210> 278

<211> 811
<212> DNA
<213> Homo sapiens

<400> 278
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cgcgcgcgcg acgccatcct ggatgcgctg gagaacctga ccgccgagga gctcaagaag 180
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gggcagctgc aggcggccac gcaccagggc tctggagccg cgccagctgg gatccaggcc 420
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acgaaaagcc agcttgaaaa aaaaaaaaaa a 811

<210> 279
<211> 1260
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (1249)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1252)
<223> n equals a,t,g, or c

<400> 279
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ccactttytt tgacagtcca gcccacctcc tcttctgccc ggagaagctc caggggytgc 180
ctttktgatc acagcatctt cacaaggacc aaaggaaaat aagatttcty gtaagaacac 240
cgtgaccaca tctttaaaat gacccatttc gtggctycca caagatttac acctycacac 300
tgaggccgga agtggttttg cccctataaa acatggcgaa aagctttctt gtctccaagg 360
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gatggcgccc ctactaaagc cttggggtta gtacgcgtcg cagcagtctc ttccgacagt 480
tgtgttgtgc caatggtgga gaagaaaact tcggttcgct cccaggaccc cgggcagcgg 540
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aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaant tngggggggg 1260

<210> 280
<211> 1668
<212> DNA
<213> Homo sapiens

<400> 280
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ttgattgtsa cagcaagatc aaataacaaa acgaagcata ttgaagaaga gaacttgatt 180
gacgaagact ttcaaaatct aaaactgcgg tcgacaggct tcaccaatct tggagcagaa 240
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agtgcctttg ttagatggaa aaaaaaaaaa aaaaaaaaaa aaaaaaaa 1668

<210> 281
<211> 2328
<212> DNA
<213> Homo sapiens

<400> 281
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ccacagcagg tagcagtctg gccaaccatg gtggatatca acagccccga aagcctaacc 120
gaagcatata aactccgtgc agccagatta gtagaaattg ctgcaaaaaa ccttcaaaaa 180

gaagtgattc acagaaaaag caaggaggta gcttggaacc taacttctgt tgaccttgtt 240
cgagcaagtg aggcacattg ccactatgtg gtagttaagc tcttttcaga aaaactcctc 300
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<210> 282
<211> 956
<212> DNA
<213> Homo sapiens

<400> 282
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tgcggggctt ccgccgccgc ttccctgagg agccgcacgt gccgctggag carcgccgcg 180
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<210> 283
<211> 1402
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (26)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (88)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (97)
<223> n equals a,t,g, or c

<220>
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<222> (131)
<223> n equals a,t,g, or c

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<222> (1344)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1355)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1394)
<223> n equals a,t,g, or c

<400> 283
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ggcgggggg nagaaaagat ttttttcttc tcttaatcgg aatcgtgatg gtgttggatt 180
atttcaatgg tggggttaat atagcatgtt atcctgtcta tcttttaaag atttctgtat 240
aagactgttg agcagttttt aaaatagtgt aggataatat aaaaagcaga tagatggcgc 300
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<211> 675
<212> DNA
<213> Homo sapiens

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<220>
<221> misc feature
<222> (520)
<223> n equals a,t,g, or c

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<221> misc feature
<222> (560)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (618)
<223> n equals a,t,g, or c

<400> 284
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attccagatg cgagcgcggc cgcggccccg gccgctctgg gcgactgtgc tggcgctggg 120
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ccggccagat gattcgaaga atttctccat ccaagtgcgg caggtggarg attaccctgt 480
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agaacctggg taccaagctn ggccacccar atgcgaaagc tcaccartaa cctgcggatt 600
ggcttcsggg catttgtngg acaagcctgt gtcaccatac atgtacctcg tgcgaatttt 660
ggctcagggc aaatt 675

<210> 285
<211> 1339
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (1330)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1331)
<223> n equals a,t,g, or c

<400> 285
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gatggtctcg ggacctccg ccgccgtgga agagtacagt tgtgaatttg gctccgcgaa 180
gtattatgca ctgtgtggct ttggtggggt cttaagttgt ggtctgacac acactgctgt 240
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atttaacgga ttctcagtta cacttaaaga ggatggtgtt cgtggtttgg ctaaaggatg 360
ggctccgact ttccttggct actccatgca gggactctgc aagtttggct tttatgaagt 420
ctttaaagtc ttgtatagca atatgcttgg agaggagaat acttatctct ggcgcacatc 480
actatatttg gctgcctctg ccagtgctga attctttgct gacattgccc tggctcctat 540
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aaggaacttt tatatatttg acagtgtagg aaattgtcta ttcctgatat aattactgta 1200
gtactcttgc ttaaggcaag agtttcagat ttactgttga aataaaccca actcttcatg 1260
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1320
aaaaaaaaan naaaaaaaa 1339

<210> 286
<211> 1398
<212> DNA
<213> Homo sapiens

<400> 286
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ggcaagtgga caccacaaag gcagtgatca ctttgcagcc tccatgggtc agcgtgttcc 180
aagaggaaac cgtaaccttg cactgtgagg tgctccatct gcctgggagc agctcyacac 240
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ccagtgtcaa tgacagtggt gaatacaggt gccagagagg tctctcaggg cgaagtgacc 360
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cggaaggaga acctctggcc ttgaggtgtc atgcgtggaa ggataagctg gtgtacaatg 480
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aaaaaaaaaa aaaaaaaa 1398

<210> 287
<211> 926
<212> DNA
<213> Homo sapiens

<220>
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<222> (20)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (22)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (896)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (917)
<223> n equals a,t,g, or c

<400> 287
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tttttgcaag aaaggatcaa agtgaacgga aaagctggga accttggtgg aggggtggtg 240
accatcgaaa ggagcaagag caagatcacc gtgacatccg aggtgccttt ctccaaaagg 300
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<210> 288
<211> 3094
<212> DNA
<213> Homo sapiens

<400> 288
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aggaggacaa aatggggtca agaggacaca gaagagttgt atagcaccag attggttcca 180
aatagttaat ggatgtgtgc acatttctg ttcagggatt aagaccagaa tatcagtgga 240
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<210> 289
<211> 1983
<212> DNA
<213> Homo sapiens

<400> 289
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gga 1983

<210> 290
<211> 1298
<212> DNA
<213> Homo sapiens

<220>
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<222> (1224)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1231)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1242)
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<220>
<221> misc feature
<222> (1262)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1285)
<223> n equals a,t,g, or c

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cccacagatg gtgcatcccc tggcagaggc tcctgctcac agcctcactt ctaaccttct 180
ggaacccgcc caccactgcc aagctcacta ttgaatccac gccgttcaat gtcgcagagg 240
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agattcagaa cacaacctac ctgtggtggg taaataatca gagccttccg gtcagtccca 1200
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angaccctat gaatgtggaa tccanaacaa attaagtg 1298

<210> 291
<211> 2459
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (3)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (4)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1604)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1605)
<223> n equals a,t,g, or c

<220>

<221> misc feature
<222> (2374)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (2392)
<223> n equals a,t,g, or c

<400> 291
cgnnccacgc gtccgcagca rggccaacag tcacagcagc cctgaccaga gcattcctgg 60
agctcaagct ctctacaaag aggtggacag agaagacagc agagaccatg ggacccccct 120
cagcccctcc ctgcagattg catgtcccct ggaaggaggt cctgctcaca gcctcacttc 180
taaccttctg gaacccaccc accactgcca agctcactat tgaatccacg ccrttcaatg 240
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acagctggta caaaggcgaa agagtggatg gcaacagtct aattgtagga tatgtaatag 360
gaactcaaca agctacccca gggcccgcat acagtggtcg agagacaata taccccaatg 420
yatccctgct gatccagaac gtcacccaga atgacacagg attctatacc ctacaagtca 480
taaagtcaga tcttgtgaat gaagaagcaa ccggacagtt ccatgtatac ccggagctgc 540
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tcacctgtga acctgaggtt cagaacacaa cctacctgtg gtgggtaaat ggtcagagcc 660
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<210> 292
<211> 570
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (567)
<223> n equals a,t,g, or c

<400> 292
aattcggcac gmgccggagt gtggtacttc tcctagttgc agtcaggctt catacgctat 60
tgtcctgccc gttagagcag ccagcgggta cagaatggat tttggaagag ggagtcacca 120
ctggacctcc aaggaagcca cgtgcagaca tctacaacct tcgatctcct gacgagttta 180
ttgttggcca aaaccaggct ttgattgaac caggatgaat gcgggtgttg gaagtagaat 240
atatatatac atataaaatt ggttgggagc cacgtgtacc agtgtgtgtt gatcttggct 300
tgattcagtc tgccttgtaa cagaaactgg cgatggaata tgagaggagc cctctggaaa 360
gaaaaggaca gaccctgtgc tttcatgaaa gtgaagatct ggctgaacca gttccacaag 420
gttactgtat acatagcctg agtttaaaag gctgtgccca cttcaagaat gtcattgtta 480
gactttgaaa tttctaactg cctacctgca taaagaaaat aaaatctttt aaatcaaaaa 540
aaaaaaaaaa raaggggggcc gctctanagg 570

<210> 293
<211> 2468
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (2076)
<223> n equals a,t,g, or c

<400> 293
gggtttgaga agattggaca gtgcttcagg caccgtgtac acagcaatgg atgtggccac 60
aggacaggag gtggccatta agcagatgaa tcttcagcag cagcccaaga aagagctgat 120
tattaatgag atcctggtca tgagggaaaa caagaaccca aacattgtga attacttgga 180
cagttacctc gtgggagatg agctgtgggt tgttatggaa tacttggctg gaggctcctt 240
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gtktctgcag gctctggagt tcttgcattc gaaccagata accccagagc agagcaaacg 360
gagcaccatg gtaggaaccc catactggat ggcaccagag gttgtgacac gaaaggccta 420
tgggcccaag gttgacatct ggtccctggg catcatggcc atcgaaatga ttgaagggga 480
gcctccatac ctcaatgaaa accctctgag agccttgtac ctcattgcca ccaatgggac 540
cccagaactt cagaacccag agaagctgtc agctatcttc cgggactttc tgaaccgctg 600
tctcgagatg gatgtggaga agagaggttc agctaaagag ctgctacagc atcaattcct 660
gaagattgcc aagcccctct ccagcctcac tccactgatt gctgcagcta aggaggcaac 720
aaagaacaat cactaaaacc acactcaccc cagcctcatt gtgccaagcc ttctgtgaga 780
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aagagaactg caactgaatg actaatcaga tgatggccat ttctaaataa ggaatttcct 960
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taaaaaaa 2468

<210> 294
<211> 1080
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (1038)
<223> n equals a,t,g, or c

<400> 294
ctcgtgccga attcggcacg agcccacggg cccggcgcca tgagtgttgc cgcttcctgg 60
atgacaacca aatcatcacc agctctgggg ataccacctg tgccctgtgg gacattgaga 120
caggccagca gacagtgggt tttgctggac acagtgggga tgtgatgtcc ctgtccctgg 180
cccccgatgg ccgcacgttt gtgtcaggcg cctgtgatgc ctctatcaag ctgtgggacg 240
tgcgggattc catgtgccga cagaccttca tcggccatga atccgacatc aatgcagtgg 300
ctttcttccc caacggctac gccttcacca ccggctctga cgacgccacg tgccgcctct 360
tcgacctgcg ggccgatcag gagctcctca tgtactccca tgacaacatc atctgtggca 420
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ctgcaacatc tgggatgcca tgaagggcga ccgtgcagga gtcctcgctg gccacgacaa 540
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ccccgggcca cggggccttg ggtccctgcc ctcccaccca ggtttggttc ctcccggggc 780
ccccactgtg gagataagaa ggggatggaa tgggggaaga ggaggagcag gaggccctca 840

tccttctgct gccctggggt tggggcctca cccctctgga gggccggagg caggaggtgg 900
aaaccccagg ggctggcttt tttaaaactg gttttatttt aatttttatt atattttcag 960
tttttccata aaggagccaa ttccaactct gwaaaaaaaa aaaaaaaaaa acttcgrggg 1020
ggggcccgta cccaattngc ctttaggggg gggtttaaat taatggcggg gttttaaaag 1080

<210> 295
<211> 2695
<212> DNA
<213> Homo sapiens

<400> 295
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tgttaatttt tttctacaaa aaaaccttga aattttagat atcccaatgt gaatctaatt 120
tccatatata cagaaattag acaaataata agtctttagt tcaacttaag catatctcaa 180
atgacttctc taaatttaaa gttgatcatg ataggatcat aaaagacaga aaagacttaa 240
gtaatcttgt aatgacaatt atttccattt ttgctgaact aaaaatattt aacttcataa 300
atatgttact acagcttcca gatttaaaga aaaaaagttt cccccactct caattaaaag 360
ttagaaccct ccacttttaa aattatacaa atatttcttt tttacattac acagaagcct 420
tctgtaccat tttacgaatt tctgtcttca taatataagt gaaaatactg tcatttcaat 480
tttctgcttt aaattgtttt taataagcat yccaaagtga tacagactta agcttttaat 540
caatcagtca ttcagttgat agacaaagtt agcgatgctt tatgctagga aacttgttga 600
cagtaacctg tgcgacttta tgcagaagac aaatgctagt aattattatg cacagaggaa 660
aaatcatttt aagtatgtgg taaagcagct tcatctttca aaattgattt gctctggttt 720
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taacctgttt tcagttcttt ttgaaaagaa gacattattt atattgaacc accttatttt 840
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tgatgtttag gctttatttc tgttaataag gctttttacc attgattaaa tgaaggaatg 2520
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ttctaactac aaaaaaaaaa aagtcgacac cgccgggaat ttaggtgtag tagtccccccg 2640
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<210> 296
<211> 1394
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (1238)
<223> n equals a,t,g, or c

<400> 296
gcccacgcgt ccgagctcag tcagcagaag agataaaagc aaacaggtct gggaggcagt 60
tctgttgcca ctctctctcc tgtcaatgat ggatctcaga aataccccag ccaaatctct 120
ggacaagttc attgaagact atctcttgcc agacacgtgt ttccgcatgc aaatcaacca 180
tgccattgac atcatctgtg ggttcctgaa ggaaaggtgc ttccgaggta gctcctaccc 240
tgtgtgtgtg tccaaggtgg taaagggtgg ctcctcaggc aagggcacca ccctcagagg 300
ccgatctgac gctgacctgg ttgtcttcct cagtcctctc accacttttc aggatcagtt 360
aaatcgccgg ggagagttca tccaggaaat taggagacag ctggaagcct gtcaaagaga 420
gagagcattt tccgtgaagt ttgaggtcca ggctccacgc tggggcaacc cccgtgcgct 480
cagcttcgta ctgagttcgc tccagctcgg ggaggggtk gagttcgatg tgctgcctgc 540
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tatagtgaca ggctgtgctc catattttac agtcattttg gtcacaatcg agggtttctg 1320
gaattttcac atcccttgtc cagaattcat tcccctaaga gtaataataa ataatctcta 1380
acaccaaaaa aaaa 1394

<210> 297
<211> 998
<212> DNA
<213> Homo sapiens

<400> 297
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tggccgcatt gaaattcctc cgcragataa ttaaactcgg ggcctcatcc gggcaaaatt 120
acattccttg tgacgactgc gcatgctcgg aaaggggacg caatcragat cccaaacgcg 180

gtacagacca aaccgcagtc cacgttacgg atcggcttac tccgcggagt tggcctcatt 240
tctgcagtcg gcgctccctg tagtttctcc tctcgaacgc caggtggagc aaccggccgg 300
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tctggttggc cccgtgtgtt ccttttccta tacctcccca ggcagcctgg ggaacgtggt 900
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aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaa 998

<210> 298
<211> 1666
<212> DNA
<213> Homo sapiens

<400> 298
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gctttkttga gagcgacatg tttgtggaac acagatgtgc agattttgga atggctgctg 180
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<213> Homo sapiens

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<223> n equals a,t,g, or c

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<222> (402)
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<210> 300
<211> 1026
<212> DNA
<213> Homo sapiens

<220>
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<222> (1026)
<223> n equals a,t,g, or c

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<210> 301
<211> 830
<212> DNA
<213> Homo sapiens

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<210> 302
<211> 3300
<212> DNA
<213> Homo sapiens

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<222> (1158)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (3232)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (3280)
<223> n equals a,t,g, or c

<400> 302
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<210> 303
<211> 475
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (444)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (451)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (454)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (470)
<223> n equals a,t,g, or c

<400> 303
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<210> 304
<211> 2902
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (2888)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (2891)
<223> n equals a,t,g, or c

<400> 304
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<210> 305
<211> 1553
<212> DNA
<213> Homo sapiens

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<210> 306
<211> 1987
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (731)
<223> n equals a,t,g, or c

<400> 306
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gctattggct tcttcattac aggaggaaaa aaaggtcctg aatctgtgcc tccttcccct 180
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cacttggtga caatggcatt atgatctatt ttccatgaat ctccatgagg atattcattg 1860
actcagtgag ttagacaaat ttccttattg ataaaacact ctcttggaac tgctatacac 1920
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catttcc 1987

<210> 307
<211> 785
<212> DNA
<213> Homo sapiens

<400> 307
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cctgcgcccc tcactcctcc cgctccatct gctgctgctg ctgctgctca gtgcggcggt 180
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acactacacg ggaagcttgg tagatggacg tattattgac acctccctga ccagagaccc 360
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ggccatggtg ccagccctcc tgggcctcat tgggtatcac ctatacagaa aggccaatag 660
acccaaagtc tccaaaaaga agctcaagga agagaaacga aacaagagca aaaagaaata 720
ataaataata aattttaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 780
aaaaa 785

<210> 308
<211> 2178
<212> DNA
<213> Homo sapiens

<400> 308
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aagcatggac cacatccaag ctgagctgtc rgctagagtc atggagctgg ccccagctgg 180
gatgcccacc cagcagcagg tccccttttct gtctgtgggt ggggacattg ggtccggac 240
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ggatgacaag cgatacttcc gtcgactgat cttcctcagc aacaggaatg tggtgcagtc 360
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aaaaaaaaaa aactcgta 2178

<210> 309
<211> 875
<212> DNA
<213> Homo sapiens

<400> 309
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gtaacttatc tggaagggaa agcacatgcc ttcacgggca gggtatgttc cttttcttct 180
cggggtgttg acttgcattc ctgtgtgaac tgttccctct gccatgttta ccgtgtgatg 240
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ccttctctcc tccaaatcag tctcttccct tctccactag ataactgtaa aaccttttcc 360
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gtttatcact gttgggtgga gtcacgtccc ttccctccac cgaagtcatc aaccagatag 480
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tacctctccc aggtcctctc acttgcctgc cccgcgtcct ggttgcatgg ccgcacctgt 720
gtgtgtgcag aggtctgtgt cccatcctct gcacctcctt tccgggggcc tggggagccc 780
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<210> 310
<211> 756
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature

<222> (613)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (638)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (684)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (756)
<223> n equals a,t,g, or c

<400> 310
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ggaagctccg tagtcaccga cgagaccaga agtggcatga taaacagtat aagaaagctc 180
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ctgttggtga tattcctgga gtccgcttta aggttgtcaa agtagccaat gtttctcttt 480
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atcttgttat atgacactct caaataacca gtattn 756

<210> 311
<211> 851
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (834)
<223> n equals a,t,g, or c

<400> 311
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tgataagtat aacaatggtg aacatggaca gtatagcctc ttaagcaaaa ttacctttga 240
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gtttggaaat gaaagggaat taataagtca ccttccagtc catgagacaa cttgattatt 600
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ctcactaatc c 851

<210> 312
<211> 1335
<212> DNA
<213> Homo sapiens

<400> 312
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cctcctcttc atcatcgtcg tcgtcgtcct cctcctcctc tggctccagt tctagtgact 180
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aaaaaaaaaa aaaaa 1335

<210> 313
<211> 516
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (505)
<223> n equals a,t,g, or c

<400> 313
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ctgagggagg cgcgagggcg cggagttcca ggtcgagcag ttaggccgcg agcgactgcg 120
gcgccgagcc gatgagtaac ccgaagcccc tagaggagtg gtcacctgcc tgagggcact 180
tctgtcccac cagcatcaga ccaggccgca ccgagtcccc ggcaccatgt ttgggaagag 240
gaagaagcgg gtggagatct ccgcgccgtc caacttcgag caccgcgtgc acacgggctt 300
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ggcccccaag accatcgtgc ggggcagcaa argtgccaaa gatggggccc tcacgctgct 480
gctggacgag tttgagaaca tgttngtgac acgctt 516

<210> 314
<211> 1833
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (625)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1761)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1766)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1792)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1806)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1827)
<223> n equals a,t,g, or c

<400> 314
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ggtgcntttt tggataccac tttgggncct gga 1833

<210> 315
<211> 1354
<212> DNA
<213> Homo sapiens

<400> 315
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tcgttgtctt tctaggtctc agccggtcgt cgcgacgttc gcccgctcgc tctgaggctc 120
ctgaagccga aaccagctag actttcctcc ttcccgcctg cctgtagcgg cgttgttgcc 180
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<210> 316
<211> 2421
<212> DNA
<213> Homo sapiens

<400> 316
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<210> 317
<211> 1092
<212> DNA
<213> Homo sapiens

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ttttggagaa caaagtgaat ttacttcgac ttcttaaatt tttgtaaaag actataagtt 180
tagacatctt tctcattcaa atttaaagat atctttctcc tcttgatcaa tctatcaata 240
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atattgaatg caaaataatt gacatataga actttacaaa catatgtcca aggactctaa 360
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<210> 318
<211> 1380
<212> DNA
<213> Homo sapiens

<400> 318
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tcagttgtcc agcttgccaa agaactaata caactgatca aagagaccaa ttcagagtct 420
gaaatggaaa attgggttga ttatgttaat gatagaccca ccaatgacat gagataccca 480
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<210> 319
<211> 2612
<212> DNA
<213> Homo sapiens

<400> 319
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ccataccact atatccatgt gctggaccag aacagcaacg tgtcccgtgt ggaggtcggg 180
ccaaagacct acatccggca ggacaatgag agggtactgt ttgcccccat gcgcatggtg 240
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<210> 320
<211> 943
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (52)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (54)
<223> n equals a,t,g, or c

<400> 320
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tggtggagtt cagtccaatt caggtcagcc atatccaaaa gaccacaagt cattactaag 180
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<210> 321
<211> 2959
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (2948)
<223> n equals a,t,g, or c

<220>

<221> misc feature
<222> (2956)
<223> n equals a,t,g, or c

<400> 321
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<210> 322
<211> 802
<212> DNA
<213> Homo sapiens

<400> 322
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<210> 323
<211> 1724
<212> DNA
<213> Homo sapiens

<220>
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<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1650)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1701)
<223> n equals a,t,g, or c

<400> 323
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cgcgtgccgc agaaagatct cagagtaaag aagaacttaa agaaattcag atatgtgaag 180
ttgatttcca tggaaacctc gtcatcctct gatgacagtt gtgacagctt tgcttctgat 240

aattttgcaa acacgaggct gcagtcagtt cgggaaggct gtaggacccg cagccagtgc 300
aggcactctg gacctctcag ggtggcgatg aagtttccag cgcggagtac caggggagca 360
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gattcagaag atgaaagtgg aatgaatttt ttggagaaaa gggctttaaa tataaagcaa 480
aacaaagcaa tgcttgcaaa actcatgtct gaattagaaa gcttccctgg ctcgttccgt 540
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ccgggtgttg cttccaggag aaaccctgaa cggagagctc gtcctcttac caggtcaagg 660
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tgaatttctt ttaaattaca gttttatgaa agcatatttt atttacttgg tgttgaaata 1560
gccctyataa aacctaagca cttggaaacn caataatagt attaactaac tagatctatt 1620
gaatttcaga gaagagccta aatagcaaan tttacacaaa aacgagtatg atttagcact 1680
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<210> 324
<211> 2261
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (1098)
<223> n equals a,t,g, or c

<400> 324
cccagatggt aggccaacag gggacgcttt tgtcctcttt gcctgtgagg aatatgcaca 60
gaatgcgttg aggaagcata aagacttgtt gggtaaaaga tacattgaac tcttcaggag 120
cacagcagct gaagttcagc aggtgctgaa tcgattctcc tcggcccctc tcattccact 180
tccaacccct cccattattc cagtactacc tcagcaattt gtgcccccta caaatgttag 240
agactgtata cgccttcgag gtcttcccta tgcagccaca attgaggaca tcctggattt 300
cctgggggag ttcgccacag atattcgtac tcatggggtt cacatggttt tgaatcacca 360
gggccgccca tcaggagatg cctttatcca gatgaagtct gcggacagag catttatggc 420
tgcacagaag tgtcataaaa aaaacatgaa ggacagatat gttgaagtct ttcagtgttc 480
agctgaggag atgaactttg tgttaatggg gggcacttta aatcgaaatg gcttatcccc 540
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araarctgcc atttaccagc cctctgtgat tttgaatcca cgagcactgc agccctycac 660
agcgtactac ccagcaggca ctcagctctt catgaactac acagcgtact atcccagtgt 720
ttgaaagatg tatggtgatc ttgaaacctc cagacacaag aaaacttcta gcaaattcag 780
gggaagtttg tctacactca ggctgcagta ttttcagcaa acttgattgg acaaacgggc 840

ctgtgcctta tcttttggtg gagtgaaaaa atttgagcta gtgaagccaa atcgtaactt 900
acagcaagca gcatgcagca tacctggctc tttgctgatt gcaaataggc atttaaaatg 960
tgaatttgga atcagatgtc tccattactt ccagttaaag tggcatcata ggtgtttcct 1020
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cttaggagaa agaataaaat tgttattttc ccagtctctt ggccatgatg atatcttatg 1260
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aagtgagaca atttgaacag tgtattctag aaaacaatac actaactgaa cagaagtgaa 1620
tgcttatata tattatgata gccttaaacc tttttcctct aatgccttaa ctgtcaaata 1680
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gctataaaag tgcaatatta gacactagct agtactgctg cctcatgtaa ctccaaagaa 1860
aacaggattt cattaagtgc attgaatgtg gmtatttctc taagttactc atattgtcct 1920
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ttaactgcaa taggaagaaa aaaaaaaagg tttgtgtgaa aattggtgat aactggcact 2100
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gttaacattt gataataaaa cttgcctgtt taatctcaaa a 2261

<210> 325
<211> 1213
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (1213)
<223> n equals a,t,g, or c

<400> 325
tggacgcgtg ggtcgaccca cgcgtccggt caaaaytaac cccctaataa aattaattaa 60
ccactcattc atcgacctcc ccaccccatc caacatctcc gcatgatgaa acttcggctc 120
actccttggc gcctgcctga tcctccaaat caccacagga ctattcctag ccatgcacta 180
ctcaccagac gcctcaaccg ccttttcatc aatcgcccac atcactcgag acgtaaatta 240
tggctgaatc atccgctacc ttcacgccaa tggcgcctca atattcttta tctgcctctt 300
cctacacatc gggcgaggcc tatattacgg atcatttctc tactcagaaa cctgaaacat 360
cggcattatc ctcctgcttg caactatagc aacagccttc ataggctatg tcctcccgtg 420
aggccaaata tcattctgag gggccacagt aattacaaac ttactatccg ccatcccata 480
cattgggaca gacctagttc aatgaatctg aggaggctac tcagtagaca gtcccaccct 540
cacacgattc tttacctttc acttcatctt gcccttcatt attgcagccc tagcagcact 600
ccacctccta ttcttgcacg aaacgggatc aaacaacccc ctaggaatca cctcccattc 660
cgataaaatc accttccacc cttactacac aatcaaagac gccctcggct tacttctctt 720
ccttctctcc ttaatgacat taacactatt ctcaccagac ctcctaggcg acccagacaa 780
ttataccct gccaacccct taaacacccc tccccacatc aagcccgaat gatatttcct 840
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actatccatc ctcatcctag caataatccc catcctccat atatccaaac aacaaagcat 960
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aacctgaatc ggaggacaac cagtaagcta ccctttacc atcattggac aagtagcatc 1080
cgtactatac ttcacaacaa tcctaatcct aataccaact atctccctaa tkgaaaacaa 1140
aatactcaaa tggcctaaa aaaaaaaaa aaaaacycgg gggggggccg ggtwcccaat 1200
ttccccccta ggn 1213

<210> 326
<211> 2764
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (372)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (2128)
<223> n equals a,t,g, or c

<400> 326
gccggagcaa ggctgagctg ctccgcagca tcgccaagag gaaggagcgc ctggccatcc 60
tggacagtca ggctgggcag atccgggctc aggccgtkca rgartcagaa cgcctggccc 120
gggacaagaa tgcctcctta cagctgctgc aaaaggagaa ggagaagctg actgtgctgg 180
aaaggagata ccactcactc acaggggggca ggcctttccc gaagaccaca tcgaccctca 240
aagaggttta ccgctccaag atggatggcg aggccaccag ccccccttccc cggacccgca 300
gcggcccctc ccctcctcct ctggctcttc ctcctcctcc tcccagctca gcgtggctac 360
cctggggcgt ancyccksccc caaagagcgc tctactcacc cagaatggca cgggcagcct 420
tcctcgcaac ctggcagcca cactgcagga catcgagacc aagcgccaac tagctctgca 480
gcagaaggga caacaagtga ttgaagagca gcggcggcga ctggctgagc tgaagcagaa 540
agcggcagtg aggcacagtg ccagtgggat gcccttcacg ggcagcacc cttcccagcg 600
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ccaggctggg ggtttcagt atttgtaagc atttcagcag aacaataaag cctttggact 2700
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gggc 2764

<210> 327
<211> 1764
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (1398)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1758)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1759)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1762)
<223> n equals a,t,g, or c

<400> 327
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acgaccccaa cgccctgtat tgcatttgcc gccagcctca caacaacagg tttatgattt 120
gctgtgaccg ctgtgaagaa tggtttcatg gcgattgtgt gggcatttct gaggctcgag 180
ggaggctttt ggaaaggaat ggggaagact atatctgccc aaactgcacc attctgcaag 240
tgcaggatga gactcattca gaaacggcag atcagcagga agctaaatgg agacctggag 300

atgctgatgg caccgattgt acaagtatag gaacaataga gcagaagtct agcgaagacc 360
aagggataaa gggtagaatt gagaaagctg caaatccaag tggcaagaag aaactcaaga 420
tcttccagcc tgtgatagag gcgcctggtg cctcaaaatg tattggcccc gggtgctgtc 480
acgtggcgca cccgactcgg tgtactgcag taatgactgt atcctcaaac acgccgcagc 540
gacaatgaag tttctaagct caggtaaaga acagaagcca aagcctaaag aaaagatgaa 600
gatgaagcca gagaagccca gtcttccgaa atgcggtgct caggcaggta ttaaaatctc 660
ttctgtgcac aagagaccag ctccagaaaa aaaagagacc acagtgaaga aggcagtggt 720
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gtgggcgagc gatcacaatt acaatgcagt aaagccagaa aagactgctg ctccctcgcc 840
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atttcaaatt aatgaaatga agatatttca aacagatctt tgaaacctca gattctgtgg 1680
tgcaatttta atgttttctt gtttctcagt tttctgctat aaaactattt tcaattcagt 1740
ctttaaaaaa aaaaaaannt cnaa 1764

<210> 328
<211> 571
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (7)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (535)
<223> n equals a,t,g, or c

<400> 328
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ttccctttaa gatatgtgca ggatcaagtt gcggcacctt ttcagctgag taaccacact 120
ggccgcatca aggtggtctt tactccgagc atctgtaaag tgacctgcac caagggcagc 180
tgtcagaaca gctgtgagaa ggggaacacc accactctca ttagtgagaa tggtcatgct 240
gccgacaccc tgacggccac gaacttccga gtggtaattt gccatcttcc atgtatgaat 300
ggtggccagt gcagttcaag ggacaaatgt cagtgccctc caaatttcac aggaaaactt 360
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ggcaaggcat tggggacgca tgtcatccat tcaacacata ccttgcctct gaccgtgact 480
agccagcagg agtcaaagtg aaatttcctc cttaacatag tcaatatcca tgtgnaacat 540

cctcctgaag cttccgtcca gatacatcag g 571

<210> 329
<211> 473
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (37)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (449)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (467)
<223> n equals a,t,g, or c

<400> 329
cacgtagtaa tctttaaata taaatagcca cgtgtgnact actatcatat gggacagaac 60
agttccagac cacattattg ataagatgtg ttaaaataaa taagatcttt ctgtgaactt 120
ttgggaacca aatggttttg ggcatgattt cccagctcat tatatattga cacagaattt 180
tttcagaatg gcatttacta gtaccccaga aatttagcaa agtatagtta ggtacttatt 240
gtaaaatata ttgcatattt gatttaaggt ttgttatgaa cacactaatc tgatatttta 300
tatttaaacc attttcaatk ctgtaagact cagtaagagc tatttaatta tactgwaaca 360
aagaaaatct ataaataaat agcacaaata ggcacatgcg ggtgtataat actgaagtgg 420
tagtttttaa tttccgaaga gaataagcnt ttcaggccca ttagaancac aga 473

<210> 330
<211> 1335
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (865)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1004)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1156)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1301)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1328)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1333)
<223> n equals a,t,g, or c

<400> 330
ggcgctactg aggccgcgga ccggactgcg gttggggcgg gaagagccgg ggccgtggct 60
gacatggagc agccctgctg ctgaggccgc gccctccccg ccctgaggtg ggggcccacc 120
aggatgagca agctgcccag ggagctgacc cgagacttgg agcgcagctg cctgccgtgg 180
cctccctggg ctcctcactg tcccacagcc agagcctctc ctcgcacctc cttccgccgc 240
ctgagaagcg aagggccatc tctgatgtcc gccgcacctt ctgtctcttc gtcaccttcg 300
acctgctctt catctccctg ctctggatca tcgaactgaa taccaacaca ggcatccgta 360
agaacttgga gcaggagatc atccagtaca actttaaaac ttccttcttc gacatctttg 420
tcctggcctt cttccgcttc tctggactgc tcctaggcta tgcgtgctgc rgctccggca 480
ctggtgggtg attgcggtca cgacgctggt gtccagtgca ttcctcattg tcaaggtcat 540
cctctctgag ctgctcagca aaggggcatt tggctacctg ctccccatcg tctcttttgt 600
cctcgcctgg ttggagacct ggttccttga cttcaaagtc ctaccccagg aagctgaaga 660
ggagcgatgg tatcttgccg cccaggttgc tgttgcccgt ggacccctgc tgttctccgg 720
tgstctgtcc gagggacatt ctattcaccc ccagaatcct ttgcagggtc tgacaatgaa 780
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tttgagaaga ataatgaata tggggacacc gtgtacacca ttgaagttcc ctttcacggc 960
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tccgggggaga gaatggcctg gggtttcat cgtggttcaa ntcggccatt aaccccctgt 1320
tttgcacntt gtntg 1335

<210> 331
<211> 1046
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (982)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (997)
<223> n equals a,t,g, or c

<400> 331
ggtaaaacag agagcaacat gccccagtcc ctctctctgg ccagttcttg tggcagcccc 60
attggcctgg agacatggtt ttttgtggtt gcagctgcag ctgtcccccc gtcttttaac 120
tcgacatcaa aagcctctct cctgccagtg ccataggttt gttagagcta ctgttttgta 180
acagctgctc aggtgtcccc aaactcctgg agttttccac cctgagctgt taaaaacctg 240
ccctgcctgt cacccatttc tgtgccacca gcccaccccc tgcctccact ctcctccctg 300
ccaccttctg tccctgccat aggaatatgg ggacaccgtg tacaccattg aagttccctt 360
tcacggcaag acgtttatcc tgaagacctt cctgccctgt cctgcggagc tcgtgtacca 420
ggaggtgatc ctgcagcccg agaggatggt gctgtggaac aagacagtga ctgcctgcca 480
gatcctgcag cgagtggaag acaacaccct catctcctat gacgtgtctg caggggctgc 540
gggcggcgtg gtctccccaa gggacttcgt gaatgtccgg cgcattgagc ggcgcaggga 600
ccgatacttg tcatcaggga tcgccacctc acacagtgcc aagcccccga cgcacaaata 660
tgtccgggga gagaatggcc ctgggggctt catcgtgctc aagtcggcca gtaacccccg 720
tgtttgcacc tttgtctgga ttcttaatac agatctcaag ggccgcctgc cccggtacct 780
catccaccag agcctcgcgg ccaccatgtt tgaatttgcc tttcacctgc gacascgcat 840
cagcgagctg ggggcccggg cgtgactgtg ccccctccca ccctgcgggc cagggtcctg 900
tcgccaccac ttccagagcc agaaagggtg ccagttgggc tcgcactgcc cacatgggac 960
ctggccccag gcwgtmamcc tncamcgagc cacgcantcc tgggagttga tgaytgaaca 1020
gstttgggtg gacattggat tcgggg 1046

<210> 332
<211> 1311
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (1280)
<223> n equals a,t,g, or c

<400> 332
ggcggcacca gcggcggcgc tctgtgtgga gaagcagggg cwgctgctgc cgctgctgct 60
gcacgaatcg ccgcagcccc cagccttgcg cgtcgtcgct acctcctcgg acaggtgaga 120
agcagcccag aaattttatg aataagcatc agaagccagt gctaacaggc cagcggttca 180
aaactcggaa aagggatgaa aaagagaaat tcgaacccac agtcttcagg gatacacttg 240
tccaggggct taatgaggct ggtgatgacc ttgaagctgt agccaaattt ctggactcta 300
caggctcaag attagattat cgtcgctatg cagacacact cttcgatatc ctggtggctg 360
gcagtatgct tgcccctgga ggaacgcgca tagatgatgg tgacaagacc aagatgacca 420
accactgtgt gttttcagca aatgaagatc atgaaaccat ccgaaactat gctcaggtct 480
tcaataaact catcaggaga tataagtatt tggagaaggc atttgaagat gaaatgaaaa 540
agcttctcct cttccttaaa gccttttccg aaacagagca gacaaagttg gcgatgctgt 600
cggggattct gctgggcaat ggcaccctgc ccgccaccat cctcaccagt ctcttcaccg 660
acagcttagt caaagaaggc attgcggcct catttgctgt caagcttttc aaagcatgga 720
tggcagaaaa agatgccaac tctgttacct cgtctttgag aaaagccaac ttagacaaga 780
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gctcagaaca tcagctttan tcgtgccgat tcggcacgag cggcacgagc c 1311

<210> 333
<211> 1444
<212> DNA
<213> Homo sapiens

<400> 333
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tgtccttggg gctgtaattg gccccagctg agcagggcaa acactgaggt caactacaag 120
ccacaggccc cttccccagc ctcagttcac agctgccctg ttgcagggag gcggtggccc 180
ttctgttgct agaccgagcc tgtgggatat accaaggcag aggagcccat agccatgagg 240
agcctcgggg ccctgctctt gctgctgagc gcctgcctgg cggtgagcgc tggccctgtg 300
ccaacgccgc ccgacaacat ccaagtgcag gaaaacttca atatctctcg gatctatggg 360
aagtggtaca acctggccat cggttccacc tgcccctggc tgaagaagat catggacagg 420
atgacagtga gcacgctggt gctgggagag ggcgctacag aggcggagat cagcatgacc 480
agcactcgtt ggcggaaagg tgtctgtgag gagacgtctg gagcttatga gaaaacagat 540
actgatggga agtttctcta tcacaaatcc aaatggaaca taaccatgga gtcctatgtg 600
gtccacacca actatgatga gtatgccatt ttcctgacca agaaattcag ccgccatcat 660
ggacccacca ttactgccaa gctctacggg cgggcgccgc agctgaggga aactctcctg 720
caggacttca gagtggttgc ccagggtgtg ggcatccctg aggactccat cttcaccatg 780
gctgaccgag gtgaatgtgt ccctggggag caggaaccag agcccatctt aatcccgaga 840
gtccggaggg ctgtgctacc ccaagaagag gaaggatcag gggtgggca actggtaact 900
gaagtcacca agaaagaaga ttcctgccag ctgggctact cggccggtcc ctgcatggga 960
atgaccagca ggtatttcta taatggtaca tccatggcct gtgagacttt ccagtacggc 1020
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actgtggcgg cctgcaatct ccccatagtc cggggcccct gccgagcctt catccagctc 1140
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aacgggaaca agttctactc agagaaggag tgcagagagt actgcggtgt ccctggtgat 1260
ggtgatgagg agctgctgcg cttctccaac tgacaactgg ccggtctgca agtcagagga 1320
tggccagtgt ctgtcccggg gtcctgtggc aggcagcgcc aagcaacctg ggtccaaata 1380
aaaactaaat tgtaaactcc tgaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1440
aagg 1444

<210> 334
<211> 1030
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (59)
<223> n equals a,t,g, or c

<220>

<221> misc feature
<222> (989)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1006)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1023)
<223> n equals a,t,g, or c

<400> 334
tagaattcgg agaagctgaa gcttagtgtt ctaaacggtg gttgggaagg gggaaggang 60
acctcatgga cgtgcctggg ggtgtggctt ggcttccctt gattttggcc ggtggatgac 120
gctgtcctga ccacacccac tccttgctgc agccrtgkag tcttccactt tcgccttggt 180
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tcctgttgcc atcagtgccc agcacctgtg ctacagccat gtcactcctg gcgaccctgg 300
ggctggagct ggacagggcc ctgctcccag ctagtgggct gggatggctc gtagactatg 360
ggaaactccc cccggcccct gcccccctgg ctccctatga ggtccttggg ggagccctgg 420
agggcgggct tccagtgggg ggagagcccc tggcaggtga tggcttctct gactggatga 480
ctgagcgagt tgatttcaca gctctcctcc ctctggagcc tcccytaccc cccggcaccc 540
tcccccaacc ttccccaacc ccacctgacc tggaagctat ggcctccctc ctcaagaagg 600
agctggaaca gatggaagac ttcttcctag atgccccgct cctcccacca ccctccccgc 660
cgccactacc accaccacca ctaccaccag ccccctccct ccccctgtcc ctcccctcct 720
ttgacctccc ccagccccct gtcttggata ctctggactt gctggccatc tactgccgca 780
acgaggccgg gcaggaggaa gtggggatgc cgcctctgcc cccgccacag cagccccctc 840
ctccttctcc acctcaacct tctcgcctgg gcccccctacc cacatcctgc caccacccga 900
ggggaccgca agcaaaagaa gagagaccag aacaagtcgg cggytytgag gtaccgccag 960
cggaaggggg caggaggggt tgagggcynk gggaagggga agttgncagg gggttgggaa 1020
ggnaagggaa 1030

<210> 335
<211> 2127
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (72)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (2098)
<223> n equals a,t,g, or c

<220>
<221> misc feature

<222> (2114)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (2117)
<223> n equals a,t,g, or c

<400> 335
ggatctgagg aaagggaggg cttttctgat ctctcccaat tagaggatta ggcaattggc 60
agcgcagtgc gntaactctg ggcggggctg ggctccaggg ctggacagca cagtccctct 120
gaactgcaca gagacctcgc agccccgaga actgtcgccc ttccacgatg tggctccgtg 180
cctttatcct ggccactctc tctgcttccg cggcttgggc agggcatccg tcctcgccac 240
ctgtggtgga caccgtgcat ggcaaagtgc tggggaagtt cgtcagctta gaaggatttg 300
cacagcctgt ggccattttc ctgggaatcc cttttgccaa gccgcctctt ggacccctga 360
ggtttactcc accgcagcct gcagaaccat ggagctttgt gaagaatgcc acctcgtacc 420
ctcctatgtg cacccaagat cccaaggcgg ggcagttact ctcagagcta tttacaaacc 480
gaaaggagaa cattcctctc aagctttctg aagactgtct ttacctcaat atttacactc 540
ctgctgactt gaccaagaaa aacaggctgc cggtgatggt gtggatccac ggagggggc 600
tgatggtggg tgcggcatca acctatgatg ggctggccct tgctgcccat gaaaacgtgg 660
tggtggtgac cattcaatat cgcctgggca tctggggatt cttcagcaca ggggatgaac 720
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acattgccag ctttggaggg aacccaggct ctgtgaccat ctttggagag tcagcgggag 840
gagaaagtgt ctctgttctt gttttgtctc cattggccaa gaacctcttc caccgggcca 900
tttctgagag tggcgtggcc ctcacttctg ttctggtgaa gaaaggtgat gtcaagccct 960
tggctgagca aattgctatc actgctgggt gcaaaaccac cacctctgct gtcatggttc 1020
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tatctctgga cttacaggga gaccccagag agagtcaacc ccttctgggc actgtgattg 1140
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tcccctacat ggtcggaatt aacaagcagg agtttggctg gttgattcca atgcagttga 1260
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gtcttttgcg aaagggattg caggttcaga aggcatctta ccatggctgg ggaattgtct 1980
ggtggtgggg ggcaggggac agaggccatg aaggagcaag ttttgtattt gtgacctcag 2040
ctttgggaat aaaggatctt ttgaaggcca aaaaaaaaaa aaaagggcgc ccttttangg 2100
gttcccaatt tacnaanggg tgcttgg 2127

<210> 336
<211> 847
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (291)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (334)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (829)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (847)
<223> n equals a,t,g, or c

<400> 336
ccgccatgcc gttcctggag ctggacacga atttgcccgc caaccgagtg cccgcggggc 60
tggagaaacg actctgcgcc gccgctgcct ccatcctggg caaacctgcg gacggaccac 120
tccccactcc tttcctcacg ccaagctctg actttccgtg ctccacgatc ccgcggctcc 180
ccctccgcac gtctttccct tgtcgccctc cccagtcatg acccgggcgt gaccttcagg 240
gaccgcggcc cgtatcggga tccctgcccc gcgaacactg cgcgtttcgg ntttcgcgcg 300
ctcgggtccc gtccccagag gtagcccggc cggntccaac ttcgggcaaa attttcatgt 360
ccccctgcgg accgcgtgaa cgtgacggta cggccgggcc tggccatggc gctgagcggg 420
tccaccgagc cctgcgcgca gctgtccatc tcctccatcg gcgtagtggg caccgccgag 480
gacaaccgca gccacagcgc ccacttcttt gagtttctca ccaaggagct agccctgggc 540
caggaccgga tacttatccg ctttttcccc ttggagtcct ggcagattgg caagataggg 600
acggtcatga ctttttttatg attgggcacg gagggatcca gggcatctgt gaactggctg 660
cttcttccag agagatctct tggcagagtg agggcctgga gataaccagc tttggattat 720
cccgcatgca acattcctgt gatcacataa tcctcttctt catcctcata tgaaataaat 780
gaagagagct tcctcattca aaaaaaaaaa aaaaaaaccc cggggggggnc cggtaaccca 840
ttggccn 847

<210> 337
<211> 702
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (21)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (150)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (669)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (679)
<223> n equals a,t,g, or c

<400> 337
ttttccgccc cgctgtatcc natggttccc tgtgccttcc ggctagaact gctcacagtc 60
ccgcctcttc cgctgcgtgc cggaccatgg cgcaggggca gcgcaagttt caggcgcaca 120
aacccgcaaa gagtaagacg gcagcggcan cctctgaaaa gaatcggggc ccaagaaaag 180
gcggtcgtgt tatcgctccc argaaggcgc gcgtcgtgca gcagcaaaag ctcaagaaga 240
acctagaagt cggaatccgg aagaagatcg aacatgacgt ggtgatgaaa gccagcagca 300
gcctgcccaa gaagctggca ctgctgaagg ccccagccaa gaagaaaggg gcagctgccg 360
ccacctcctc caagacacct tcctgaggac gctggcccca gtgcaggcca acatcccacc 420
ccctacctcc atatgggacc ttgcaagtca tcccacaggc tgcactgtca ggaagaggac 480
cctgtccccc agcactgggc ttcacctaga acttcagtgg gggccaaggg tgctgagaac 540
ccagcaatga ccaggaagat acagtcacta acttcatctg tccccgtgcc ccttcccagg 600
tcctgcctcc acaggtttaa cccagaacaa taaacctggc tttgtcaama aaaaaaaaaa 660
agggccggnc gttttagang atccagctta cgtaccgtgc tt 702

<210> 338
<211> 875
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (791)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (813)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (830)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (861)
<223> n equals a,t,g, or c

<400> 338

taagatagca aaccagttcg ttttaagtaa gctaacttgt tcattagtat ctgtggctta 60
aaatggcaaa aaagaaaata tccttgagtt tgtaatctag ttacagaagt aaggcataca 120
cacacacaaa gataacagta cctagagaga gagtgtgtgt gagtgtgcgt gtctctgtgt 180
gtgcacgtgc acgctcatgg ccaaatgtgc gcactctaca taaaggaggc aggagttcct 240
ataggctatt taatgtaaga gaaactattt ttctcctgtt ccagctgtat cagatactcg 300
ttccgcaaca cagaaatgac tcagaatctc agacaaaatg tattatttgt tcaattttaa 360
ttttgctact acattcataa ctcttaaatt gttaggctgt ttcatttaca tcaaagttat 420
ctcacaaaag agaaggcagg aaacgttttg tgagtgccta ttctatgtca aacactgtgt 480
tggcaccata ttttacaagt ttttttcctc ttctcacagt gatcttgtga gttagttact 540
tatattttta ttagaactca ttattctggg taccctccaa tgagaattag agaggttaaa 600
tacctttTcc tagattccca cagcaggaag gtgggcatag ctgttttgtc tgacaccaga 660
acccatctca ccacactgct ttacagtctt cctgaaggga cattttgagg tgggggggggg 720
ccttcaaagc tcagaggact gggtttkgaa tgggtttaat ttttgcaagg gatccatgtc 780
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catttgggtt acatccgggc nggggagggt caggg 875

<210> 339
<211> 1448
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (1427)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1432)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1440)
<223> n equals a,t,g, or c

<400> 339
cagcgccact agcctcattg tgcccaggag ttctccaaac ccgcgctgcg gagtgagtga 60
ccaagttccg gccagttcga cctcgaggat ccagaggtgg agacggtact acctcccagc 120
tctgttttcc atccccttca ggtccttcct cgggaggcgg cgaaggcggt ccaccctgcg 180
cgtgatcctt yatgcccggc ccctgcccct ccctccgggt ggaacttccc cctcaccgcc 240
agacttaagc tgaggatcgt tggatctctg gcggggtgca gaactgagcc caggccacag 300
taccctattc acgctctgtg cttgtgccaa gggggcaatg gcggcttcct gtgttctact 360
gcacactggg cagaagatgc ctctgattgg tctgggtacc tggaagagtg agcctggtca 420
ggtaaaagca gctgttaagt atgcccttag cgtaggctac cgccacattg attgtgctgc 480
tatctacggc aatgagcctg agattgggga ggccctgaag gaggacgtgg gaccaggcaa 540
ggcggtgcct cgggaggagc tgtttgtgac atccaagctg tggaacacca agcaccaccc 600
cgaggatgtg gagcctgccc tccggaagac tctggctgac ctccagctgg agtatctgga 660
cctgtacctg atgcactggc cttatgcctt tgagcgggga gacaacccct tccccaagaa 720
tgctgatggg actatatgct acgactccac ccactacaag gagacttgga aggctctgga 780
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gctaaatgcc ctgaacaaaa attggagata tattgtgcct atgcttacgg tggatgggaa 1260
gagagtccca agggatgcag ggcatcctct gtaccccttt aatgacccgt actgagacca 1320
cagcttcttg gcctcccttc cagctctgca gctaatgagg tcctgccaca acggaaagag 1380
ggagttaata aagccattgg agcatccaaa aaaaaaaaaa aaaaaanayc tngsggccgn 1440
caagggaa 1448

<210> 340
<211> 843
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (812)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (822)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (829)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (838)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (841)
<223> n equals a,t,g, or c

<400> 340
aattcggcac gagctggcct gagaagccaa ctcagactca gccaacagag attgttgatt 60
tgcctcttaa gcaagagatt cattgcagct cagcatggct cagaccagct catacttcat 120
gctgatctcc tgcctgatgt ttctgtctca gagccaaggc caagaggccc agacagagtt 180
gccccaggcc cggatcagct gcccagaagg caccaatgcc tatcgctcct actgctacta 240
ctttaatgaa gaccgtgaga cctgggttga tgcagatctc tattgccaga acatgaattc 300
gggcaacctg gtgtctgtgc tcacccaggc cgagggtgcc tttgtggcct cactgattaa 360
ggagagtggc actgatgact tcaatgtctg gattggcctc catgacccca aaaagaaccg 420
ccgctggcac tggagcagtg ggtccctggt ctcctacaag tcctggggca ttggagcccc 480

aagcagtgtt aatcctggct actgtgtgag cctgacctca agcacaggat tccagaaatg 540
gaaggatgtg ccttgtgaag acaagttctc ctttgtctgc aagttcaaaa actagaggca 600
gctggaaaat acatgtctag aactgatcca gcaattacaa cggagtcaaa aattaaaccg 660
gaccatctct ccaactcaac tcaacctgga cactctcttc tctgctgagt ttgccttgtt 720
aatcttcaat agttttacct accccagtct ttggaaccyt aaataataaa aataaacatg 780
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naa 843

<210> 341
<211> 1293
<212> DNA
<213> Homo sapiens

<400> 341
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acggatatcc tctgttgggg gagaagcaac attttgtgat tttccaaaaa taaaccatgg 180
aattctatat gatgaagaaa aatataagcc attttcccag gttcctacag gggaagtttt 240
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atgcacagaa gaaggatggt caccaacacc aaagtgtctc agactgtgtt tctttccttt 360
tgtggaaaat ggtcattctg aatcttcagg acaaacacat ctggaaggtg atactgtgca 420
aattatttgc aacacaggat acagacttca aaacaatgag aacaacattt catgtgtaga 480
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cacagtacaa aatgctyata tastgtcgag acagatgagt aaatatccat ctggtgagag 600
agtacgttat saatgtagga gcccttatga aatgtttggg gatgaagaag tgatgtgttt 660
aaatggaaac tggacrgaac cacctcaatg caaagattct acrggaaaat gtgggccccc 720
tccacctatt gacaatgggg acattacttc attcccgttg tcagtatatg ctccagcttc 780
atcagttgag taccaatgcc agaacttgta tcaacttgag ggtaacaagc gaataacatg 840
tagaaatgga caatggtcag aaccaccaaa atgcttacat ccgtgtgtaa tatcccgaga 900
aattatggaa aattataaca tagcattaag gtggacagcc aaacagaagc tttattygag 960
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cacattgcga acaacatgtt gggatgggaa actggagtat ccaacttgtg caaaaagata 1080
gaatcaatca taaartgcac acctttattc agaactttag tattaaatca gttctyaatt 1140
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ctggaaaact aaaaaaaaaa aaaaaaaact cgc 1293

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<211> 1273
<212> DNA
<213> Homo sapiens

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<221> misc feature
<222> (6)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (483)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1247)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1262)
<223> n equals a,t,g, or c

<400> 342
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cgacgcgcag ctgcaggctg agaagcagaa ggccagggaa gaagaggagc aaaaagaagg 180
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cgagaacccc aaccgggtgg cacagacaac caaaaaggtc acacaactgg atctggacgg 360
gccaaaggag ctttcgagga gagaacgaga agagattgag aagcagaagg caaaagagcg 420
ttacatgaaa atgcacttgg ccgggaagac agagcaagcc aaggctgacc tggcccggct 480
ggncatcatc cggaaacagc gggaggaggc tgcccggaag aaggaagagg aaaggaaagc 540
aaaagacgat gccacattgt caggaaaacg aatgcagtca ctctccctga ataagtaact 600
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gcctggggcc tcctcttcat cttggcacag aaattgtttg ggggatgggg ggggggactg 780
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ccaggcaaaa catgctccac aaattcaact tgtatatttg gcagattaaa cttgacatta 1200
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gnggtttaaa tta 1273

<210> 343
<211> 1793
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (1251)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1267)
<223> n equals a,t,g, or c

<400> 343

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gactacagcg atgatgggtg ggtgaatttg aaccggcaag gcttcagcta ccagtgtccc 180
caggggcagg tgatagtggc cgtgaggagc atcttcagca agaaggaagg ttctgacaga 240
caatggaact acgcctgcat gcccacrcca cagagcctcg ggaacccac ggagtgctgg 300
tgggaggaga tcaacagggc tggcatggaa tggtaccaga cgtgctccaa caatgggctg 360
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actgaatacg actgtgaatt tgcaaatgtt tagatttgcc acataccaaa tctgggtgaa 660
aggaaagggg ccaggggaca ggagggtgtc cacatatgtt aacatcagtt ggatctccta 720
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tgggcctttc tgactagtat cacacttcta ataaaatcca caattaaacc atgtttctca 840
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accaaaagca ggctttctgc cctgagggac atcttcccac tcccctgctc cacatgagcc 1140
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ctgcagagat ggcgctatct ttcctcctcc tgtgatgtcc tgctcccaac catttgtact 1680
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aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaa        1793
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<210> 344
<211> 1672
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (95)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1667)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1668)
<223> n equals a,t,g, or c

<400> 344
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aagtctaagc gccggaagtg gtgggcattc tgggtaacga gctatttact tcctgcgggt 180
gcacaggctg tggtcgtcta tctccctgtt gttcttccca tcggcgaaga tggccctgga 240
gacggtgccg aaggacctgc ggcatctgcg ggcctgtttg ctgtgttcgc tggtcaagac 300
tatagaccag tttgaatatg atggttgtga caattgtgat gcatatctac aaatgaaggg 360
taaccgagag atggtatatg actgcactag ctcttccttt gatggaatca ttgcgatgat 420
gagtccagag gacagctggg tctccaagtg gcagcgagtc agtaacttta agccaggtgt 480
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agcatctttg ctctccacct cctgcctctg cttatttctt gttctggaac taaatgaaca 660
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atcattttat catttatct tctttggact acaggtgggg tgggagggat ttgggttggt 780
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tctgtgcctt ccccatgcca aggactctag gtcaaatgtc aataaatatg aacctcgaga 900
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tccccatttt gatttcccta agttccttgt tctccctcta aaaagagaat gattgcaccc 1560
tgcctgttta cctcaggatt gttgtgattg tagaaacgaa gctatgtgaa aattatataa 1620
gtattataaa ggtgaaatac ttttgctctc aaaaaaaaaa aaaaaanntt aa 1672

<210> 345
<211> 2109
<212> DNA
<213> Homo sapiens

<400> 345
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caagacaccc cagaggatct tcagcagtcc tacttcccat tctctataga gctttgaagc 180
ttggaaccct tccagggtaa acattttctc ttgtgctgct yaggacatyt ggggcctagc 240
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tacgtgagta caaacrtgga ttttccaagg gcttgggaam tgattcttga gcccagaaga 480
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agttgctctg taagcactaa aactttttaa tcatttttaa gaaacttttt agattgtatt 780
acaaatttgc cttaacagta attagatgtt gaatataatt ttaacatttt attaatgact 840
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aattaatttg attgcatgaa ctaagcaatt ttactaatga aaaggttgta tatgtgcaag 1080
tcactttttt aaaaaccaag aaaaaacttt aatagaggaa atcttattca ttaatttatt 1140
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aacttgacct tttgataatc gctcttacag gtcattgtct gttctaacag caaattgtaa 1860
acatgtgctt catagatatt gtggctctca gtcatcactt tgtcctatgg tatttattga 1920
atgttcacat actaatggtg cacaggtgtt tttttctata aatcttctga ctgtcctgta 1980
attcattctt aagctttaac ttgaaggtat cgtaattgcc ggcatttgat gtttagcaat 2040
aaaagaataa atgtgtacca gcattttatg tttaaaaaaa aaaaaaaaaa actcgagact 2100
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<210> 346
<211> 1714
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (21)
<223> n equals a,t,g, or c

<400> 346
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gatttcattc tctacattta aaggacatcc tttctgagct gctgtgaata aatttggaat 120
ggtactgtat attttcatct aatggagaac tagctgtact ttgaataagg attgctgcac 180
tggacgactt tagaacatcc ctcacaatgt cgtcaacccg gagccagaac ccccacggcc 240
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cgaaaaaggg gcagacacct ggaggagctc agtttgttgg cctggaatta tataaacgac 480
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tcaggccact gaataaacag gtaacaaatg ctgttttaaa gctgattgaa aaggaaagga 780
atggtgaaac catcaataca agattgatta gtggagttgt acagtcttac gtggaattgg 840
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tgcagcagaa cccagttact gaatatatga aaaaggcaga ggctcgtctg cttgaggaac 1020
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agaggctcgt ccaccagaac agtgcaagtg acgatgccga agccagcatg atctccaagt 1680
taaagcaagc ttgcgggttc gagtacacct ctaa 1714

<210> 347
<211> 1672
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (1667)
<223> n equals a,t,g, or c

<400> 347
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acgacmgaga cygaagattg gyyactgtaa agcagttgaa agaatttatt cagcaaccag 120
aaaataagct ggtactagtt aaacaattgg atatcttggc tgctgyacat gatgtgctta 180
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gttcaatgta gacaatgcaa aatttgtagt taaatttgac ctcagtgccc tgactacaay 1440
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cttttctcat tacatattta tgtatttcac tgtcatgtca acatgtctgc agaatcactg 1560
tatgtaacaa acagccatat ttaagacatg cctggataaa taaaattggt aggaatgttt 1620
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<210> 348
<211> 1483
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (19)
<223> n equals a,t,g, or c

<400> 348
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gcgcgtggtg cccgggacct gaacccgcgg cgggacatct cctcctggct ggcccagtgg 120
ttccctagaa ccccagccag gtccgtggtg gccctgaaga cccccatcaa ggtggagctg 180
gtggcaggga aaacctacag gtggtgtgtg tgtggccgca gcaagaagca gcccttctgt 240
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aatgtttgct gatggggaag atggcaaaaa caagcctgcc caaccagact ggtagtcctg 660
cagtcactgc tatgaggccc atgtgctgcc tcctgctcca gattttaacc tctctgtggg 720
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caagccaggc taaacccaga gatgagaggc acccttccct tcttccctcc accccaaaga 840
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<211> 2756
<212> DNA
<213> Homo sapiens

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<222> (1597)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (2540)
<223> n equals a,t,g, or c

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<211> 1645
<212> DNA
<213> Homo sapiens

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<222> (97)
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<220>
<221> misc feature
<222> (1574)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1596)
<223> n equals a,t,g, or c

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<210> 353
<211> 1637
<212> DNA
<213> Homo sapiens

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<222> (738)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (771)
<223> n equals a,t,g, or c

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<212> DNA
<213> Homo sapiens

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<210> 355
<211> 738
<212> DNA
<213> Homo sapiens

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<222> (654)
<223> n equals a,t,g, or c

<220>
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<222> (689)
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tgcttccgcc ccgactccac caaagtggag tccctggtgg ccctgctcaa caactcctcg 360
gagatgaagc tagtgcagat gaagtggcat gaggcctgtc tcagcatctc agccgccatc 420
ttggaaatcc tcaatgcctg ggagaatggg gtcctggcct tcgagtccat ccagaaaatc 480
actgataaca tcaaagggaa ggtatgcagt ctggcggtgt gtgctgtggc ttggcttgtg 540
gcccacgtcc ggatgctggg gctggatgag cgtgagaagt cgctgcagat gatccgccag 600
ctggcagggc cactgtttag ygagaacacc ctgcagttct acaatgagag ggtngtgatc 660
atgaactcga tcctgggagc gcatgtgtnc cgacgtgctg cagcagacag ccacgcagga 720
ttcaagtttc cctccaac 738

<210> 356
<211> 1966
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (56)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (788)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1753)
<223> n equals a,t,g, or c

<400> 356
gaactagtct cgagtttttt ctgtctagct ccgaccggct gaggcggcgc ggcagnggag 60
ggacggcagt ctcgcrcggc tactgcagca ctggggtgtc agttgttggt ccgacccaga 120
acgcttcagt tctgctctgc aaggatatat aataactgat tggtgtgccc gtttaataaa 180
agaatatgga aactgaacag ccagaagaaa ccttccctaa cactgaaacc aatggtgaat 240
ttggtaaacg ccctgcagaa gatatggaag aggaacaagc atttaaaaga tctagaaaca 300
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cagacagcag tggccccgag cgcatattga gtatcagtgc tgatattgaa acaattggag 480
aaattctgaa gaaaatcatc cctaccttgg aagagggcct gcagttgcca tcacccactg 540
caaccagcca gctcccgctc gaatctgatg ctgtggaatg cttaaattac caacactata 600
aaggaagtga ctttgactgc gagttgaggc tgttgattca tcagagtcta gcaggaggaa 660
ttattggggt caaaggtgct aaaatcaaag aacttcgaga gaacactcaa accaccatca 720
agcttttcca ggaatgctgt cctcattcca ctgacagagt tgttcttatt ggaggaaaac 780
ccgatagngt tgtagagtgc ataaagatca tccttgatct tatatctgag tctcccatca 840
aaggacgtgc acagccttat gatcccaatt tttacgatga aacctatgat tatggtggtt 900
ttacaatgat gtttgatgac cgtcgcggac gcccagtggg atttcccatg cggggaagag 960
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attatgatga tatgagccct cgtcgaggac cacctccccc tcctcccgga cgaggcggcc 1080
ggggtggtag cagagctcgg aatcttcctc ttcctccacc accaccacct agaggggggag 1140

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tggcttatga accacagggt ggctccggat atgattattc ctatgcaggg ggtcgtggct 1320
catatggtga tcttggtgga cctattatta ctacacaagt aactattccc aaagatttgg 1380
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cttcgatcaa aattgatgag cctttagaag gatccgaaga tcggatcatt accattacag 1500
gaacacagga ccagatacag aatgcacagt atttgctgca gaacagtgta agcagtwtma 1560
gwttagcttt gtgttagctt atacatacta aaacctttaa aaagcttttc ttctcaattg 1620
atttttttct tttagaagcc atggtgtctc aaccttttgg ggacctaact tctaaacatt 1680
ctaatagttt gccttaattt ttcttctgct ttcttactaa aaacgargac attcaatact 1740
aatcttgcct ggnaggaagc cttgaaccaa gcaaacttct gcatttctct ggtgaaaact 1800
gctgccaaaa ccacttgtta aaaattgtac agagcctgta ggaaaatata gaaggttcca 1860
ttgggatgtt ggcctagttc tgtgtgggaa gacttagtgg attttgtttg tttttagata 1920
actaaatcgg ccaacaaatc accgttctgg cctatgggac cgggcc 1966

<210> 357
<211> 1562
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (16)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (18)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (260)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (262)
<223> n equals a,t,g, or c

<400> 357
taccccgccg cctgcngnac cggtccggaa ttcccgggtc gacccacgcg tccgcatgaa 60
atggaccaat actggggaat tggcagtctg gccagtggga taaatttgtt cacaaacagt 120
tttgagggcc cagttcttga tcacaggtat tatgcaggtg gatgctcccc gcattacatc 180
ctgaacacga ggtttaggaa gccctacaat gtggaaagct acacgccaca gacccaaggc 240
aaatacgaat tcatattaan anagtatgaa tcatactcag attttgaacg caatgtcaca 300
gagaaaatgg caagcaagtc tggtttcagt tttggtttta aaatacctgg aatatttgaa 360
cttggcatca gtagtcaaag tgatcgaggc aaacactata ttaggagaac caaacgattc 420
tctcatacta aaagcgtatt tctgcatgca cgctctgacc ttgaagtagc acattacaag 480
ctgaaaccca gaagcctcat gctccattac gagttccttc agagagttaa gcggctgccc 540
ctggagtaca gctacgggga atacagagat ctcttccgtg attttgggac ccactacatc 600

acagaggctg tgcttggggg catttatgaa tacaccctcg ttatgaacaa agaggccatg 660
gagagaggag attatactct taacaacgtc catgcctgtg ccaaaaatga ttttaaaatt 720
ggtggtgcca ttgaagaggt ctacgtcagt ctgggtgtgt ctgtaggcaa atgcagaggt 780
attctgaatg aaataaaaga cagaaacaag agggacacca tggtggagga cttggtggtc 840
ctggtacgag gaggggcaag tgagcacatc accaccctgg cataccagga gctgccgacg 900
gcggacctga tgcaggagtg gggagacgct gtgcagtaca acccagccat catcaaagtt 960
aaggtggagc ctctgtatga actagtgaca gccacagatt ttgcctattc cagcacagtg 1020
aggcagaaca tgaagcaggc actggaggag ttccagaagg aagttagttc ctgccactgt 1080
gctccctgcc aaggaaatgg agtccctgtc ctgaaaggat cacgctgtga ctgcatctgt 1140
cctgttggat cccaaggcct agcctgtgag gtctcctatc ggaagaatac cccccattgat 1200
gggaagtgga attgctggtc aaattggtct tcatgctctg gaagacgtaa gacaagacaa 1260
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gaaacacttg actgctccta gcagatgata cagcagtggg ctacatacaa tgagagccct 1380
gagccctcaa gaactcaygc cagctcagcc ctacaccagt ttccacctgg agttcatgca 1440
agggcaaaag gcagtgccat gcaagctgtt taaaataaag atgttacctt gtaaaatgca 1500
agttgattta aataaatact gagttaaagg ctttaaaaaa aaaaaaaaaa aaagggggggg 1560
cg 1562

<210> 358
<211> 1931
<212> DNA
<213> Homo sapiens

<400> 358
ctcgggagct cggactccta cgcatcaccg ggaagggccg ccgcccccgcc cgcggctgct 60
ggcccgggtg acacttccgc ctgctataag agcagcggcc ctcggtgcct ccttcctgac 120
ctcgcaccca gctcggagcc cggagcgtgc ctcggcggcc tgtcggtttt caccatggag 180
cagctgagct cagcaaacac ccgcttcgcc ttggacctgt tcctggcgtt gagtgagaac 240
aatccggctg gaaacatctt catctctccc ttcagcattt catctgctat ggccatggtt 300
tttctgggga ccagaggtaa cacggcagca cagctgtcca agactttcca tttcaacacg 360
gttgaagagg ttcattcaag attccagagt ctgaatgctg atatcaacaa acgtggagcg 420
tcttatattc tgaaacttgc taatagatta tatggagaga aaacttacaa tttccttcct 480
gagttcttgg tttcgactca gaaaacatat ggtgctgacc tggccagtgt ggattttcag 540
catgcctctg aagatgcaag gaagaccata aaccagtggg tcaaaggaca gacagaagga 600
aaaattccgg aactgttggc ttcgggcatg gttgataaca tgaccaaact tgtgctagta 660
aatgccatct atttcaaggg aaactggaag gataaattca tgaaagaagc cacgacgaat 720
gcaccattca gattgaataa gaaagacaga aaaactgtga aaatgatgta tcagaagaaa 780
aaatttgcat atggctacat cgaggacctt aagtgccgtg tgctggaact gccttaccaa 840
ggcgaggagc tcagcatggt catcctgctg ccggatgaca ttgaggacga gtccacgggc 900
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cggcataatt cctcaggtag catcctattc ttggggagat ttcttcccc ttagaagaaa 1320
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yctttttttac attgaaaaaa atccagtggt tgcttttgaa tgcatcaagt aaagaagaag 1560
aaaagaatac atccgatgcg tagattcttg accatgtagt aatctataaa attgctatat 1620

cctcctgata gccatgggaa aacatgataa gatggtcatt tattttgcag ttagaatttt 1680
ggaagccaca aaatagacag acaccctgac tgttgaaggg aggtttaaaa acagatattc 1740
aattgaaatg taagagagca ccccaattga gagcccaggt tacgaagaca agcttgcctc 1800
gcctgacttt tctgtccctt gttctgcagg attagtattc tgttacagac ctctagtttt 1860
tagactcttc aattaaaggg ccaatggtta taacctgcaa aaaaaaaaaa aaaaaaaaaa 1920
aaaaaaaaaa a 1931

<210> 359
<211> 869
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (869)
<223> n equals a,t,g, or c

<400> 359
gctctggcgg gcataccagc gggccctggc cgctcacccg tggaaagtac aggtyctgac 60
agctgggccc tgtggtagga ggctggtaca aggttttgga tcggttcatc cctggcacca 120
ccaaagtgga tgcactgaag aagatgttgt tggatcaggg gggctttgcc ccgtgttttc 180
taggctgctt tctcccactg gtaggggcac ttaatggact gtcagcccag gacaactggc 240
caaactacag cgggattatc ctgatgccct tatcaccaac tactatctat ggcctgctgt 300
gcakttagcc aacttctacc tggtcccccct tcattacagg ttggccgttg tccaatgtgt 360
tgctgttatc tggaactcct acctgtcctg gaaggcacat cggctctaag cctgcctcac 420
tccatcgttt ccaccttgca gtgatgcagc ttgaccctgg aacggtcaga caacctcctc 480
aaagtgggca taccagtttc cacggggttg ggttgccggt cagagcttaa gaggactagc 540
accctgcaat gcccctcttc actctaaaat gtacactgac tgctttagag cccttgataa 600
tagtcttatt cccaccacat actaggcact ccataaatat ctgttgaacc ttcatgacct 660
tatcaacttt acacccatat cccagcaaat gccactcatc cccactcttc atagacacat 720
ttgttactct aaccctgcct aggcttcttg tagctccagc tctttagaga ctcccggaac 780
cctttatatg gtgcctcagt aaatatgtta ttaaatatgt aatccggaaa aaaaaaaaaa 840
aaaaaaaaaa aaaaaaaaaa aaaaaaaan 869

<210> 360
<211> 561
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (521)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (525)
<223> n equals a,t,g, or c

<220>
<221> misc feature

<222> (560)
<223> n equals a,t,g, or c

<400> 360
ggcacgagag actccagccg ccaggggagc gcgtgccgtt cttgcctctc tggcctgcgc 60
ctcctgagcc gagtagatat cccggagttc cgcgcggcgc cagcccttcc gccacggccg 120
tctctggaga gcagcagcca tggccctacg ctaccctatg gccgtgggcc tcaacaaggg 180
ccacaaagtg accaagaacg tgagcaagcc caggcacagc cgacgccgcg ggcgtctgac 240
caaacacacc aagttcgtgc gggacatgat tcgggaggtg tgtggctttg ccccgtacga 300
gcggcgcgcc atggagttac tgaaggtctc caaggacaaa cgggccctca aatttatcaa 360
gaaaagggtg gggacgcaca tccgcgccaa gaggaagcgg gaggagctga gcaacgtact 420
ggccgccatg aggaaagctg ctgccaagaa agactgagcc cctcccctgc cctctccctg 480
aaataaagaa cagcttgaca gaaaaaaaaa aaaaaaaaaa ntcgnggggg ggcccggtac 540
ccattcgccc tawagggggn g 561

<210> 361
<211> 1680
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (33)
<223> n equals a,t,g, or c

<400> 361
gagtttacac tgaccatggt ggaatgttaa ggngaacccc accccttctt acagatggtg 60
acccagagcc tgctcttggg aacagccaga gtaagattgg aacccagact tgcaagccag 120
cgctgtttgc attaaaaggg tgggtgagtc aggacccctg gctcargagc cgyctctcct 180
aaaagagggt ttcaaggcca aatgggtttg tcaacggtgc tgtctccctt tcttggagat 240
gctcattagc ttatcaaaga ctgagaagtc ccgctgttac agaaataatt tagtttgctg 300
tattaactgc tcctgggcct ggagcagtat tcccacctta agattcccag catccctgtg 360
ctgtcccggc tctcattcat gccgaaggcc caacccattg gctgtgttct gtttgaagat 420
ttggggggcg ccttctcttt cttccccagg gaattctcta gcagagggag gggacccacc 480
ccagtgagga agtagattgc tgcctctagc cagagacctg aactggggaa tttgaacatt 540
cctttacatt gttggagaaa tgaagccaaa gttattcaga tggttttccc aggctaaagg 600
aaagtcacct gcaagagatc ccggcactga tctggagcag ctgacagggt gggtctccct 660
taccaaagag aagaaccact ctctggcgct ggggtgacct gctggctggg cctgtaaggt 720
ttccatgttg ctgaggccat ggagattccc agagctggtc acaccgaccg ctctcagggc 780
ccgctgccct gggctggcaa caccattctg gccttggcct gcagaagctt tcagagtctt 840
cactggcagt agggggagat ggggagagga atgatctctg cccagcccct tcctttccaa 900
accatgcaat ggaagagccc agatgggtga agattgattt tgccttaact caagagaatt 960
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agatcaccat ctaagttaca tctttagctc aggtccatcc ttctcaagat ctccttctta 1140
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cctctctggg caccaggact cagtccagcc caagactact ctgggcagct cccatcccag 1500

tctggggcca tttgcagact caggaaagga tttctacagt gttctataaa agccaaaaga 1560
gagagtgggt ttgggaagag tgagggtggt tggggagagg ggaccgatgt gcctcattgt 1620
ttagtggtga ttacaaatat gcttttctgg ataaagtttg gttgtttgct cttggaaaaa 1680

<210> 362
<211> 740
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (591)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (709)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (718)
<223> n equals a,t,g, or c

<400> 362
cagaaacaaa caaaaaggca gctgggttgt cactgatggg cagcatttga gcctgccaca 60
ctggcctgga agtttccctt ccagtctgga ttttgtctgc tccttccttc cccctcaccc 120
cgttacctct tcacctccca tctcatttca ctgtgtagct cagtctctcc cacgcacata 180
attggggaca gtgggggctc tcttaccagc ctcctcagca acgcacgtcc atcaggcctg 240
gcctcagtgg ccagccacat tgatgtcaca ctggaattgt taccccagag agggcgaaga 300
gataggctat ctccccacct cccaccctac tccccactat attcccgttt tgaccacctc 360
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ccacctggag cccctagcat ttccttgtcc cctcttcccc aaaacctctg taaagggtac 480
gagagggacc ccctgccgag ccgcccgcca ctcagggcag tccgatctaa gaagcagaag 540
ctggttggag gctggctggg cctctgtcca gtccccagat gggataaact ngccttttct 600
camatcccct cttgggtgcc tkgatctttc tytgcccccg gggccaggac ccactgtgct 660
gttttcttgt tcagttttgt ggggaaagga accaaggttt ttgccaagna accagttnct 720
tgaaaggggt tagggaaggg 740

<210> 363
<211> 1324
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (385)
<223> n equals a,t,g, or c

<400> 363
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tggcgagcgg cggagacctc ttcccggggc agccggtgtc cgaactgatc gcgcagctgc 120
tgcgcgctga gccctaccct gcggcggccg gacgcttcgg cgcagggggc ggcgcggcgg 180
gcgcggtgct gggcatcgac aacgtgtgcg agctggcggc gcggctgctc ttcagcaccg 240
tggagtgggc gcgccacgcg cccttcttcc ccgagctgcc ggtggccgac caggtggcgc 300
tgctgcgcct gagctggagc gagctcttcg tgctgaacgc ggcgcaggcg gcgctgcccc 360
tgcacacggc gccgctactg gccgncgccg gcctccacgc cgcgcctatg gccgccgagc 420
gcgccgtggc tttcatggac caggtgcgcg ccttccagga gcaggtggac aagctgggcc 480
gcctgcaggt cgactcggcc gagtatggct gcctcaaggc catcgcgctc ttcacgcccg 540
acgcctgtgg cctctcagac ccggcccacg ttgagagcct gcaggagaag gcgcaggtgg 600
ccctcaccga gtatgtgcgg gcgcagtacc cgtcccagcc ccagcgcttc gggcgcctgc 660
tgctgcggct ccccgccctg cgcgcggtcc ctgcctccct catctcccag ctgttcttca 720
tgcgcctggt ggggaagacg cccattgaga cactgatcag agacatgctg ctgtcgggga 780
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gccaggcctg cagacagacc tcaagggaca gggaatgctg aggcctcgag ggcctcccg 900
gggcccagga ctctggcttc tctcctcaga cttctatttt ttaaagactg tgaaatgttt 960
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cctcatcctc cccaggaccc ctgtccagga tggagggtcc aatcctagga cagccttgtt 1080
cctcagcacc cctagcatga acttgtggga tggtggggtt ggcttccctg gcatgatgga 1140
caaaggcctg gcgtcggcca gaggggctgc tccagtgggc aggggtagct agcgtgtgcc 1200
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tagt 1324

<210> 364
<211> 2853
<212> DNA
<213> Homo sapiens

<400> 364
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tagaattgaa gatgggaaat tttgttttat taaaaaggtg ctagaagatg tttcaaagac 120
aatattctta ttttaatacg ctgtagaagg taggtgtgga acctccatgc taccatgtgc 180
acaaacctaa ttatgctttg ggtcacttgt cagttcagta aatctgcctt cctcttctcc 240
caaatcatgt catctttagg ttgttcacct gcagctgctt taaatgaatt agtatctttc 300
agatagataa ccttacaagg agaatgtttg ttttgagcag ctgaccaaaa atatatcaaa 360
caggattatg gccaaaaagt cactcaaatt tctagagatt cctttaaaag atgtatgttg 420
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ggatagaaac cattcttgga tttggtaaga ggtgagcaag acaaatcttg taccatactc 600
ttatgtacca gcacttctga tggagaagca gtgaagttca gaacgktctt cacatagtcc 660
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gaaatgtctt tattgtccat tacataaaaa tgttgactcc agtaatttat ttttctctat 1020
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<210> 365
<211> 1837
<212> DNA
<213> Homo sapiens

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<223> n equals a,t,g, or c

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<222> (2)
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<222> (3)
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<220>
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aaaaaaaaaa aaaacncgag ggggggccng gnaccca 1837

<210> 366
<211> 1823
<212> DNA
<213> Homo sapiens

<400> 366
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tgccaaagca ggagtcatct ttcccgtggg gcggatgctg cggtacatca agaaaggcca 180
ccccaagtac aggattggag tgggggcacc cgtgtacatg gccgccgtcc tggaatacct 240
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aaaaactcga gactagttct ctc 1823

<210> 367
<211> 898
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (17)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (25)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (30)
<223> n equals a,t,g, or c

<400> 367
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agtgaaacgt ctcacaggcc caggacttag cgaggggcca gagccaagca tcagcgtgat 480
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<210> 368
<211> 1117
<212> DNA
<213> Homo sapiens

<400> 368
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aagctcacca ctgctcagga ggtgctggcc cgggcccgca acctgatttc acccaggatg 180
gagaaggcct tgagtcaatt ggccctgcgy tctgctgcgc ccagcagccc cgggtctccc 240
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<210> 369
<211> 2226
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (24)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (35)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (36)
<223> n equals a,t,g, or c

<400> 369
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<210> 370
<211> 3636
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (1937)
<223> n equals a,t,g, or c

<400> 370
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<210> 371
<211> 4039
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (1085)
<223> n equals a,t,g, or c

<400> 371
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<210> 372
<211> 1599
<212> DNA
<213> Homo sapiens

<400> 372
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cagcgaacag aattgggatg ggagccacgc tggacatcca gagacagcag agaatggagc 180
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ttaaaaaaaa aaaaaaaaaa aaaaaaaaaa agggcggcc 1599

<210> 373
<211> 464
<212> DNA
<213> Homo sapiens

<400> 373

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ccttatgaat acggtaaatg tggcaaagcc tttaggcaga ggacagacct taaaaaacat 180
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<210> 374
<211> 890
<212> DNA
<213> Homo sapiens

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<221> misc feature
<222> (886)
<223> n equals a,t,g, or c

<400> 374
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<210> 375
<211> 1874
<212> DNA
<213> Homo sapiens

<400> 375
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<210> 376
<211> 2018
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (1997)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (2012)
<223> n equals a,t,g, or c

<400> 376
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attttaccac acactgtttt ttggcttgct tatgtgtagg tgaacagtca cgcctgaaac 1920
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aaaaaaaaaa aaaaccncgg gggggcccc gnacccca                          2018
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<210> 377
<211> 818
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (818)
<223> n equals a,t,g, or c

<400> 377

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gggccgtcat ggccatgaag gggaagaact gtgtggccat cgctgcagac aggcgcttcg 180
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tgtacatcgg tctggccggg ctcgccactg acgtccagac agttgcccag cgcctcaagt 300
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tcatcgagaa ggacaaaatc accaccagga cactgaaggc ccgaatggac taaccctgtt 720
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aaaaaaaaaa accccggggg gggcccggaa ccaaattn                          818
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<210> 378

<211> 2565
<212> DNA
<213> Homo sapiens

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<221> misc feature
<222> (1508)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (2565)
<223> n equals a,t,g, or c

<400> 378
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taagaagatt gctgtatcaa ctcaagaaag cagtaacttc actgtctttg tattttgaat 240
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<210> 379
<211> 1680
<212> DNA
<213> Homo sapiens

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cacctcccta ctccttttat tttacatgag tgctgatgtg ttttggcaga tgagctttca 240
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<210> 380
<211> 1267
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (4)

<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (214)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1165)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1255)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1262)
<223> n equals a,t,g, or c

<400> 380
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aatacattgt attaatacca aagtgtttgg tcattttaag aatctggaat gcttgctgta 120
atgtatatgg ctttactcaa gcaratctca tctcatgaca ggcagccacg tctcaacatg 180
ggtaaggggt gggggtggag gggaatgtgt gcancgtttt tacctaggca ccatcattta 240
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gtcaagattt tacttggcat tgagtagttt ttttcaatag taggtaattc cttagagata 360
cagtatacct ggcaattcac aaatagccat tgaacaaatg tgtgggtttt taaaaattat 420
atacatatat gagttgccta tatttgctat tcaaaatttt gtaaatatgc aaatcagctt 480
tataggttta ttacaagttt tttaggattc ttttggggaa gagtcataat tcttttgaaa 540
ataaccatga atacacttac agttaggatt tgtggtaagg tacctctcaa cattaccaaa 600
atcatttctt tagagggaag gaataatcat tcaaatgaac tttaaaaaag caaatttcat 660
gcactgatta aaataggatt attttaarta caaaaggcat tttatatgaa ttataaactg 720
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anaaatt 1267

<210> 381
<211> 1031
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (1015)
<223> n equals a,t,g, or c

<400> 381
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gccactggaa aacctttcag gccgccccca tcagtgggct ccaaagtaaa tggctgaaaa 120
caaaaatgtt tcacttccta acagttttcc tttttccact gtgtgactga aagctcctat 180
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rccaaaggtg gcctccctgt ccccaaatat attggctata tgagagtaat tttacccctc 300
tacgtaccta aaggcaccca gttcactagt ctgtggggtc ctggagcctg tctcttcttt 360
ctggaggttc aaactgaata gcaataatta cgttacccaa agcatgtgga ggaaaagtga 420
aaccagccac ggagacgctg gcccacgggc tcggcctgcg gtgtggcctg ctttgctcac 480
cagcgtcagc cgctcatttc cttctcatga agtcccatct ggtcatgggg acgagggccg 540
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tatacatgat ataatatttg tatatatgaa atctctctat atttgtttaw tttgagccat 720
tcaatctaaa ccaatgtaca ggtgtacaat gaaaaattta aatgcttagt tatttttccc 780
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gggggggccc c 1031

<210> 382
<211> 1597
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (1577)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1579)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1597)
<223> n equals a,t,g, or c

<400> 382
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aaccagcaat tccagaatac atcagctgtt taaagcaggc tctaactgaa tttaacacag 300

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attcatgcaa atgaattttt ggtgattgaa aaatattaaa ttcccaattt aaagtaaaaa 1560
aaaaaaaaaa aaaaaangnc cccggggggg ggccggn 1597

<210> 383
<211> 175
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (95)
<223> n equals a,t,g, or c

<400> 383
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ccaaacatct actacaaggt atgagggctc ctctnacgtg gctatcctga atccagccct 120
tcttggggtg ctcctccagt ttaaattcct ggtttraggg acamctstaa catct 175

<210> 384
<211> 2171
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (2166)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (2170)

<223> n equals a,t,g, or c

<400> 384
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cggacttcct gggaaagtgg ggaaggccaa ggggaaaaaa acacaaatgg ctgaagtttt 180
gccttctccg cgtggtcaaa gagtcattcc acgaataacc atagaaatga aagcagaggc 240
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tggtgtggaa ctagaaggcc taaaacaaag attagaaaag aaacagaaaa gagaaccagg 360
tacaaagaca aagaaacaaa ctacattggc atttaagcca atcaaaaaag gaaagaagag 420
aaatccctgg tctgattcag aatcagatag gagcagtgac gaaagtaatt ttgatgtccc 480
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gggggncccn g 2171

<210> 385
<211> 2364
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (19)
<223> n equals a,t,g, or c

<400> 385
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accgttggcc tcataaacct gttttgcaga actcatttat tcagcaaata tttattgagt 120
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atttatttat ttccttttat caaa 2364

<210> 386
<211> 2864
<212> DNA
<213> Homo sapiens

<400> 386
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aaggaagaag aggaggggtc agaagacgat agcaatgtga agccagactt catggtcact 300
ctgaaaaccg atttcagtgc acgatgcttt ctggaycaat tcgaagatga cgctgatgga 360
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<210> 387
<211> 2683
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (40)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (2649)
<223> n equals a,t,g, or c

<400> 387
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tttcctagat ccacactttc aaagagaaac ccctccagaa ctcccaccct gacagcccaa 180
caccaccttc ctcctggctt ccaggggca gcccagtgga atggaaagaa tgtgggattt 240
ggagtcagac aagcctgagt ccagttcccc gtttagaact cattagctgt gtgactctgg 300
gtgagtccct taacccctct gagcccgggt ctcttcatta gttgaaaggg atagtaatac 360
ctacttgcag gtygttgtca tctgagttga gcactggtca cattgaaggt gctgggtaag 420
tggtagctct tgttgcttcc cgttcagcgt cacatctgca gtggagcctg aaaaggctcc 480
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ctggaarmna aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaa 2683

<210> 388
<211> 1446
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (35)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (37)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (57)
<223> n equals a,t,g, or c

<400> 388
aagaactaaa acgactcact atagggaaaa actananacg cctgacagga aaccggnccg 60
gaattcccgg gtcgacccac gcgtccgaar argaggtgga ggargagggt gatgttgata 120
gtgatgaaga agaggaggaa gatgaggaga gctcctcgga gggcttggag gctgaggact 180
gggcccaggg agtagtggag gccggtggca gcttcggggc ttatggtgcc caggaggaag 240
cccagtgccc tactctgcat ttcctggaag gtggggagga ctctgattca gacagtgagg 300
aagaggacga tgaggaagag gatgatgaag atgaagacga cgatgatgat gaggaggatg 360
gtgatgaggt gcctgtaccc agctttgggg aggccatggc ttactttgcc atggtcaaga 420
ggtacctgac ctccttcccc attgatgacc gcgtgcagag ccacatcctc cacttggaac 480
acgatctggt tcatgtgacc aggaagaacc acgccaggca ggcgggagtt cgaggtcttg 540
gacatcaaag ctgagtcact ggacctagct gtgcccccaa cctagattgg cagcaccacc 600
ccagggcaga ggactctctg ggcacccgct gtgcatggag ccagagtgca gagccccaga 660
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tttcccagtt tgatttcaat aaatctgtcc actccccttt tgtgggggtg aacgttttaa 1380
cagccaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1440

aaaaaa 1446

<210> 389
<211> 723
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (705)
<223> n equals a,t,g, or c

<400> 389
gggcaagacc tcatgcctaa aaaataaaga gaaagcagag taaaactgga ctctgagata 60
ygactaaagt tctgtgtgat acgtgtgcct tatttagctc aagacattcc tggagcacct 120
ataaaaactg acttgtaatc caggctatgt ctctttttag cttcgtaatc tttggcaagg 180
ccattggatt cttcagctgt acaattagga gactcgatca ggtgattgcc tttctcagct 240
gtcagttctc taatttcagg cttggtagct tgtaggaact gaaattgcaa ttaaaacctt 300
tataaactca aactaaatca tgaattacag aaaaagtcca ttcttccaaa acttgatgtt 360
accacactta caagtttaaa atatgaagtc gactgtttaa aggattctgc atatattcta 420
gtgtgcacat tcagaaacat ttttcttgga aaaagtaccc aacatttttt ataactgcac 480
atattaattt attgccagaa taaattgcat tgcatgctaa ataaagtcag ataattcaaa 540
tccatttgct tttatgtagt ttttcttcta aatgtcaaca ttttggaatt aaaatgttta 600
tggttttata tgagggtagg aaatcttaac tgctttgggg ggtattgttt ataggctttt 660
tgttatgggg ccggtagttt tttaataggg ggattgccca tttcnaccgt ttgggggccc 720
ggg 723

<210> 390
<211> 1046
<212> DNA
<213> Homo sapiens

<400> 390
cgggtcgacc cacgcgtccg gtccaccaca ggcaccgcag ctcatctacc aggaatatgt 60
gaaccagcca gatgttcggc cccagccccc ttcgccccga gagggccctc tgcctgctgc 120
ccgacctgct ggtgccactc tggaaagggc caagactctc tccccaggga agaatggggt 180
cgtcaaagac gtttttgcct ttgggggtgc cgtggagaac cccgagtact tgacacccca 240
gggaggagct gcccctcagc cccaccctcc tcctgccttc agcccagcct tcgacaacct 300
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acctacggca gagaacccag agtacctggg tctggacgtg ccagtgtgaa ccagaaggcc 420
aagtccgcag aagccctgat gtgtcctcag ggagcaggga aggcctgact tctgctggca 480
tcaagaggtg ggagggccct ccgaccactt ccaggggaac ctgccatgcc aggaacctgt 540
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agggtccagt ggatgccaca gcccagcttg gccctttcct tccagatcct gggtactgaa 720
agccttaggg aagctggcct gagaggggaa gcggccctaa gggagtgtct aagaacaaaa 780
gcgacccatt cagagactgt ccctgaaacc tagtactgcc ccccatgagg aaggaacagc 840
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gttttgtttt tttaaagatg aaataaagac ccagggggag aatgggtgtt gtatggggag 960
gcaagtgtgg ggggtccttc tccacaccca ctttgtccat ttgcaaatat attttggaaa 1020
acaaaaaaaa aaaaaaaaaa aaaaaa 1046

<210> 391
<211> 699
<212> DNA
<213> Homo sapiens

<400> 391
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tcttcgcctt agtactcgtg tgaagttggc ggggacggtt cctgtcatct tcttgggctt 120
atttggtgtg ctgttgaagg ggggagacta gagaaatggc agggaacctc ttatccgggg 180
caggtaggcg cctgtgggac tgggtgcctc tggcgtgcag aagcttctct cttggtgtgc 240
ctagattgat cggtataagg ctcactctcc cgcccccaa agtggttgat cgttggaacg 300
agaaaagggc catgttcgga gtgtatgaca acatcgggat cctgggaaac tttgaaaagc 360
accccaaaga actgatcagg gggcccatat ggcttcgagg ttggaaaggg aatgaattgc 420
aacgttgtat ccgaaagagg aaaatggttg gaagtagaat gttcgctgat gacctgcaca 480
accttaataa acgcatccgc tatctctaca aacactttaa ccgacatggg aagtttcgat 540
agaagagaaa gctgagaact tcggaaaagg ctcatctgtc accctggaga agggaaactg 600
tacttttccc tgtgaggaaa cggctttgta ttttctctgt aataaaatgg ggcttctttg 660
gaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aagtcgacc 699

<210> 392
<211> 1545
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (24)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (25)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (54)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (58)
<223> n equals a,t,g, or c

<400> 392
taccggtccg gaattcccgg gtcnncccac gcgtccgcgc actgccgccg ccgnttcngc 60
ccggactcgg acgcgtggta gccccaggat gggtgagttc aacgagaaga agacaacatg 120
tggcaccgtt tgcctcaagt acctgctgtt tacctacaat tgctgcttct ggctggctgg 180
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gctggcctca ggcacctacc tggccacagc ctacatcctg gtggtggcgg gcactgtcgt 300

catggtgact ggggtcttgg gctgctgcgc caccttcaag gagcgtcgga acctgctgcg 360
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ctacgcctac taccagcagc tgaacacgga gctcaaggag aacctgaagg acaccatgac 480
caagcgctac caccagccgg gccatgaggc tgtgaccagc gctgtggacc agctgcagca 540
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gttggagacc ttcatccagg agcacctgag ggtcattggg gctgtgggga tcggcattgc 780
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catgtgcctc tgcggggcag ggccttcctg gttttgtaca ctgctgtacc cagatgccta 1440
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aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaa 1545

<210> 393
<211> 749
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (490)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (748)
<223> n equals a,t,g, or c

<400> 393
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ttyggcatca atatggtgac ctcccgggag cggrggacca ccaggttgcc taaggagggg 120
tgaaccggyc caggtcggaa acggagcagt tttccttgag cggagattca ggtttttcag 180
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cgcaaaaggg cccctcgtag caaggtcccg ccgccacgag actttcacat caatctcttc 300
cgcatgcagc cctggctgag gcagcacctg ggggatgtcc tgaatttttt acccctctag 360
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ctgaatggcc accettagac cctgtgatcc atcctctctc ctagctgagt aaatccgggt 480
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gactgcctcg ctgccccacc tcccgctcct tggcctgtcc ccagattcct tccctggttg 600
acttgactca tgcttgtttc actttcacat ggaatttccc agttatgaaa ttaataaaaa 660
tcaatggttt ccacaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 720
aaaaaaaaaa aaaaaaaaaa aaaaaaaana 749

<210> 394
<211> 611
<212> DNA
<213> Homo sapiens

<400> 394
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gtcccggtcg cgaggaggag gaggatgtgg cgcgcggagg ggaaatggct gccgaaaaca 120
agccggaaga gcgtttccca aagtgtattc tgcggaacta gcacctactg tgttctcaac 180
accgtgccac ctatagaaga tgatcatggg aacagcaata gtagtcatgt aaaaatcttt 240
ttaccgaaaa agctgcttga atgtctgccg aaatgttcaa gtttaccaaa agagaggcac 300
cgctggaaca ctaatgagag atcatgatgc agccgtcctt ttggatttct ttttaataat 360
gtgtgaccct tcacctttga tcccctgacc tgcattacct tggtaaccat ttcatttttt 420
aatttaattt cattttttaa ttttggtgta caagctgtaa catttcatct ttcaaagtgt 480
aacacgctga tttcctcaaa tagagatacc cctttgagtg ataaatttgc aaaatgctgt 540
cttcattttc tgtattaaaa ttcatttcag ttttaaaata aagtgtaatc tgtgttttca 600
tcctttttaaa a 611

<210> 395
<211> 1856
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (1851)
<223> n equals a,t,g, or c

<400> 395
gttggcgcgc ggtgcgcggt gcgtagtctg gagctatggt ggtggtggca gccgcgccga 60
acccggccga cgggacccct aaagttctgc ttctgtcggg gcagcccgcc tccgccgccg 120
gagccccggc cggccaggcc ctgccgctca tggtgccagc ccagagaggg gccagcccgg 180
aggcagcgag cggggggctg ccccaggcgc gcaagcgaca gcgcctcacg cacctgagcc 240
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accaaaaact tttgctagaa aatcagcttt tacgagagaa aactcatggc cttgtagttg 420
agaaccagga gttaagacag cgcttgggga tggatgccct ggttgctgaa gaggaggcgg 480
aagcaagggg aatgaagtga ggccagtggc cgggtctgct gagtccgcag cactcagact 540
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<213> Homo sapiens

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<223> n equals a,t,g, or c

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<223> n equals a,t,g, or c

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<223> n equals a,t,g, or c

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<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (2505)
<223> n equals a,t,g, or c

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<212> DNA
<213> Homo sapiens

<220>

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<222> (1229)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1252)
<223> n equals a,t,g, or c

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<211> 3774
<212> DNA
<213> Homo sapiens

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<211> 1522
<212> DNA
<213> Homo sapiens

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<223> n equals a,t,g, or c

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<222> (1471)
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<220>
<221> misc feature
<222> (1481)
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<220>
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<220>
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<222> (1501)
<223> n equals a,t,g, or c

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<222> (1508)
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gaaatttatt tcctagttct gtagaaatgg ttgtattaga tgttctctat catttaataa 1440
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ntcagatnac ccttaatcaa at 1522

<210> 401
<211> 1370
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (1223)
<223> n equals a,t,g, or c

<400> 401
agcccttcct gccccagctg cagaccactt tcaccaaagc cctgcaggac tccaaccggg 60
gggtgcgcct gaaggcgcag atgctctggg gaagctcatt tccatccaca ttaaggtgga 120
ccccctcttc acagagctgc tcaatggcat ccgcgccatg gaggacccag gtgtcaggga 180
cacattgctg caggccctga ggtttgtgat tcagggagca ggggccaaag tggatgccgt 240
catccggaaa aacatcgtct cactcctgct gagcatgctg ggacacgatg aggacaacac 300
tcgcatctcc tcagccgggt gcctagggga actgtgtgcc tttttgactg aagaggagct 360
tagtgccgtt ctacagcagt gcttgctggc ggacgtgtcc ggcattgact ggatggttcg 420
gcacgggcgg agctggcact ttccgtggct gtgaatgtgg ctcctggcag actttgtgcc 480
ggcagatata gcagtgatgt tcaggaaatg atcctgagca gtgccacggc ggacaggatc 540
cccattgcgg tgagcggggt ccgggggcatg ggctttctca tgagacacca catcgagaca 600
ggcggagggc agttgccggc caaactttcc agcctgttcg ttaagtgtct gcagaaccca 660
tccagcgaca tcaggctggt ggctgagaag atgatctggt gggcaaataa ggacccactg 720
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gataagaaca ccgtggtcag ggcctacagc gaccaggcaa ttgtcaacct cctcaagatg 840
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ggaaaagcac acgcatgcgc ctncagcaaa tggcagccca ggagctgttt gtccakttta 1260
ggcatggcta ggtctgggaa ctattaatag gcagggtcag aytktggggt tcctcttctc 1320

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<210> 402
<211> 1412
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (51)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1406)
<223> n equals a,t,g, or c

<400> 402
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ggaagagatt tgtggtggtg acaaaccatt tctggcccca aatgacttgc agaccaaaca 180
cctgcaactt aaggaagaat ctgtgaagct attccraggg gtgaagaaga tgggtgggga 240
agaatttagc cggcgttacc tgcagcagtt ggagagtgaa atagatgaac tttacatcca 300
atatatcaag cacaatgata gcaaaaatat cttccatgca gctcgtaccc cagccacact 360
gtttgtagtc atctttatca catatgtgat tgctggtgtg actggattca ttggtttgga 420
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acacctctga agactgcaaa ctggattagt tcttttactt cagtgtttaa taagcagatg 840
tatgtatgca tggttatact attttgttaa catgtacaat ttcctgattt ttcttcaaaa 900
atgctgttat aaagtatttg tctatttatg ataacagtac acgtgttctg cttgaattta 960
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ttaagcacat tttagagttc cttagttgct ttatcaaaaa ccagatattg cttttacatg 1200
gtttaataga atataaacct cttgataaaa aatgcacaaa aaatcacttt gtatatgtga 1260
gtttcactgc attgtatatt ttttcatttg gtacacaaag aatgtattct tcataggttt 1320
attcttttaa tatgtgaact attattaaag tttactctgg ttcctaagat taaaaamaaa 1380
aaaaaaaaaa aaaaaaaaaa aaaaanaaaa aa 1412

<210> 403
<211> 1750
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (2)

<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (40)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (44)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (70)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (107)
<223> n equals a,t,g, or c

<400> 403
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ggaattcggn cagtgggcat ggcgactttt tctggcccgg ctgggcnaat cctgtcgctt 120
aatccgcaga agatgtcgag tttcaaaagg aggtggcgca ggttcgcaag cgcataaccc 180
agcgaaaaaa acaagaacaa cttactcctg gagtagtcta tgtgcgccac ctacctaacc 240
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ggctgtccag aagtaaaagg actggaaata gcaaaggcta tgcatttgtg gagtttgagt 360
ctgaggatgt tgccaaaata gttgctgaaa caatgaacaa ctacctgttt ggtgaaagac 420
tcttggagtg tcattttatg ccacctgaaa aagtacataa agaactcttt aaagactgga 480
atattccatt taagcagcca tcatatccat cagtgaaacg gtataatcgg aatcggacac 540
taacacaaaa gctacggatg gaggagcgat ttaaaaagaa agaaagatta ctcaggaaga 600
aattagctaa aaaaggaatt gactatgatt ttccttcttt gattttacag aaaacggaaa 660
gtatttcaaa aactaatcgt cagacgtcta caaaaggcca ggttttacgt aagaagaaga 720
aaaaagtttc aggtactctt gacactcctg agaagactgt ggatagccag ggccccacac 780
cagtttgtac accaacattt ttggagaggc gaaaatctca agtggctgaa ctgaatgatg 840
atgataaaga tgatgaaata gttttcaaac agcccatatc ctgtgtaaaa gaagaaatac 900
aagagactca aacacctaca cattcacgga aaaaaagacg aagaagcagc aatcagtgat 960
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aactttttc tacaatgtat ttgtttgcga gtaggacttg ggagtcattg ggaaaaaaaa 1680

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aaaaataaaa 1750

<210> 404
<211> 1339
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (150)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1330)
<223> n equals a,t,g, or c

<400> 404
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ctgttacaga gtgtgacaga ggatccatgt ctgtgacaca ggacggtggg aagcctgaga 120
gagagtgaaa ttatgtgata cactgaaatn acttttgttt ttcttctaac tcatacaaaa 180
ctggtttgga aagtctttgc tttggaagcg tcagacatta gaacaggcca aactggactg 240
tctgttcata gcgtgcctga ataagaaggc ctcttaggga gccagaggga gcagagtggt 300
cgtgtcctgc gtgctcttca ccctctgggg cgcccctgct gcggctggca ggtgcagaca 360
gcctttgctg gtccccagca cgtccagggt gggtgctccc ttgcccgaca gaaccatccc 420
cactgtgagg ctgtgagaga tttgtggcag gaactgttta tgaggctcta gttgttgctg 480
ttgtggcggg aaagttaaga aacatagccc ttaaggaaac cacctttatg tattttctta 540
aagcacgcct ttaaataagc aaaaacttta aaaggcagga aagagaattc ttaggcaaat 600
tcagagaaat aagtgctagt taatactaat cacctcctcc tctgtctctc atcctccttt 660
ctcccatcaa agcaaaatat ggcctcacca ccagccccaa atcagtgctc agaccctctc 720
tgtgtctgtg tgccctcctg ggagtcagtc agcgctcagg ccaggactgt gcagggccag 780
ccagcccatg cgctagtcag gagcacaggc aaggggtgct tgtggcagtg gccgggcacc 840
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ctaagaaacc actattatat atttttyccc ttcagtcaca tagacttcag acaactctcc 960
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tcatcggtac tctttctgca tttccctcgt gctgtgtccc gctcgggttc caatggacag 1260
tatcagggct tgtttgactt aggtctttca gtttcctttt cggttccctt ttaaaaatgt 1320
gattgttaan ctgcctctt 1339

<210> 405
<211> 482
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (440)

<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (469)
<223> n equals a,t,g, or c

<400> 405
cttgggtatc ggctattgcc tgagtgtgct agagtcctcg aagagtaact gctgacctta 60
ttcactggct gtgggcctta tggcacagtc agtcaccagg ttagagacat gcttcacatt 120
cacctaccca caaactagtg gatgataaat tttggctatt cagaagacgt ttattatagg 180
agtatgtaga ttttccatag agtgctgtta tgtgacttga attttagtct cggccctgcc 240
tctgacattg tcggtggttt atcctggttc caggaaataa gactagcctt ttcctcatga 300
tagtctttgg tggtttttaa aacagttgtt taagtcaaca gatgtatcat atgcctgaca 360
ctgctctaca ccagtgaata atttacactc taataggggg tggtaactat aaagatgata 420
aacatagcat cttaattggn gtgtgtatga aggtggttgt tacctcttnc tagccaccca 480
gg 482

<210> 406
<211> 1413
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (9)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (24)
<223> n equals a,t,g, or c

<400> 406
ctggtgctnc accgcggtgt cggnccgctc tagcaactag tggatccccc gggcctgcag 60
ggaattcggc acgaggtttg gtggggttac acgcgggttc aacatgcgta tcgaaaagtg 120
ttatttctgt tcggggccca tctatcctgg acacggcatg atgttcgtcc gcaacgattg 180
caaggtgttc agattttgca aatctaaatg tcataaaaac tttaaaaaga agcgcaatcc 240
tcgcaaagtt aggtggacca aagcattccg gaaagcagct ggtaaagagc ttacagtgga 300
taattcattt gaatttgaaa aacgtagaaa tgaacctatc aaataccagc gagagctatg 360
gaataaaact attgatgcga tgaagagagt tgaagaaatc aaacagaagc gccaagctaa 420
atttataatg aacagattga agaaaaataa agagctacag aaagttcagg atatcaaaga 480
agtcaagcaa aacatccatc ttatccgagc ccctcttgca ggcaaaggga aacagttgga 540
agagaaaatg gtacagcagt tacaagagga tgtggacatg gaagatgctc cttaaaaatc 600
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aactaatggc aaaaattcat ggctagtgat gtataaaata aaatattctt tgcagtaaaa 960
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cagtgtcaga tatttttatt ttagtatttc ctgttttggt ttatttgcat cttagaagag 1080
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aacagacttt acttttctag cccagcattg atctagaagc agaggaatcc cagcgccttt 1320
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ggtacctcgg ccgcgaccac gctaagccga att 1413

<210> 407
<211> 1693
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (1548)
<223> n equals a,t,g, or c

<400> 407
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gagctccgcc cggaggtact gtgaggccgt tagagctggc ggtggatgac ttccgcattc 480
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cgcagagcat ttggtgcccc tccatgttgc aatgcaaaca ccttcaccac tggggcagtg 1620
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tcgagacagt tct 1693

<210> 408
<211> 1342

<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (107)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1332)
<223> n equals a,t,g, or c

<400> 408
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gagcatgttt gctgtgggct ggatggagct gaaggacgca tgcgggnccc ggggcctcct 120
ggacaggagc tttgccaaca tggctgaacc cttcaaggtg tggacggaga atgcagacgg 180
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aaaaaaaaaa anaaaaaaac ca 1342

<210> 409
<211> 2417
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (107)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (680)

<223> n equals a,t,g, or c

<400> 409
aaaaaaaaaa aaaaaaacca aacacaaaga gagcaatttt gggccaacag ttaccattca 60
agcctggccc tttaggccag cccagtccac gggctctgag tgtggangct gcgtagcacc 120
aggaagcggc tctgctgagg ttcaaggggc cccagcacag tgtggcatcc gttcagcttt 180
tggttggtcc aggatggtgg ggagccaggc ctcggggcct cggagcaacc acccgagcag 240
acggagtaca cggagcagcg gccccggccc cgccaacgct gccgccggga tgctccagac 300
cttgtatgat tacttctggt gggaacgtct gtggctgcct gtgaacttga cctgggccga 360
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<210> 410
<211> 1401
<212> DNA
<213> Homo sapiens

<220>

<221> misc feature
<222> (1394)
<223> n equals a,t,g, or c

<400> 410
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aaaaaaaaaa gggnggccgt t 1401

<210> 411
<211> 3016
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (399)
<223> n equals a,t,g, or c

<400> 411
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<210> 412
<211> 958
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (930)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (934)
<223> n equals a,t,g, or c

<400> 412
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gctaattaag ccgaagaagc ctgggaatca agtttgaaac aaagattaat aaagttcttt 840
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aaaaaaaaa aaaaaaaaa aaaaaaaan gggnggccgt tttaaaggaa ccaggttt 958

<210> 413
<211> 500
<212> DNA
<213> Homo sapiens

<400> 413
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gtgaaatcta gagtaaaacc aagctggccc aaggtgtcct gcaggctgta atgcagttta 360
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gcggccgctc gaattaagcc 500

<210> 414
<211> 3397
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (1)
<223> n equals a,t,g, or c

<220>

<221> misc feature
<222> (15)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (24)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (3081)
<223> n equals a,t,g, or c

<400> 414
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<210> 415
<211> 2880
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (5)
<223> n equals a,t,g, or c

<400> 415
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cttatgagac cttaaaaaat ggatttcatt ttacaggcta atgttgtaac tgactagtat 2820
gtaaaataaa tcattcctgt gtataaagca gcaaaaccta aaaaaaaaaa aaaaaaaaat 2880

<210> 416
<211> 1616
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (12)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1610)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1611)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1616)
<223> n equals a,t,g, or c

<400> 416
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aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaagggggggn nccccn 1616

<210> 417
<211> 1815
<212> DNA
<213> Homo sapiens

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<221> misc feature
<222> (270)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1184)
<223> n equals a,t,g, or c

<400> 417
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caggatgccc ctcgtcactc cccttaggag ccccaggccc aggccactca ggtgtcagat 240
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gtacagcaga gcgtgagcag gccctgcgcc tgaagagccg cgcggtggag ctgctgcccg 480
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ccgaaagctg caggattgca gagagctgga atcttctcga cggctggcag agatccaaga 660
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atgatgcagc tttga 1815

<210> 418
<211> 1966
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (15)
<223> n equals a,t,g, or c

<400> 418
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ataatgtgac ttcttaaaag ttttattaaa ggggaggggc aaatattggc aattagttgg 180
cagtggcctg ttacggttgg gattggtggg gtgggtttag gtaattgttt agtttatgat 240
tgcagataaa ctcatgccag agaacttaaa gtcttagaat ggaaaaagta aagaaatatc 300
aacttccaag ttggcaagta actcccaatg atttagtttt tttcccccca gtttgaattg 360
ggaagctggg ggaagttaaa tatgagccac tgggtgtacc agtgcattaa tttgggcaag 420
gaaagtgtca taatttgata ctgtatctgt tttccttcaa agtatagagc ttttggggaa 480
ggaaagtatt gaactggggg ttggtctggc ctactgggct gacattaact acaattatgg 540

gaaatgcaaa agttgtttgg atatggtagt gtgtggttct cttttggaat ttttttcagg 600
tgatttaata ataatttaaa actactatag aaactgcaga gcaaaggaag tggcttaatg 660
atcctgaagg gatttcttct gatggtagct tttgtattat caagtaagat tctattttca 720
gttgtgtgta agcaagtttt tttttagtgt aggagaaata cttttccatt gtttaactgc 780
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tctgaaggct ctatgaaagg aatagcatga tgtgctgtta gaatcagatg ttactgctaa 1860
aatttacatg ttgtgatgta aattgtgtag aaaaccatta aatcattcaa aataataaac 1920
tatttttatt agagaatgta waaaaaaaaa aaaaaaaaaa ctcgta 1966

<210> 419
<211> 2852
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (2838)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (2843)
<223> n equals a,t,g, or c

<400> 419
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gccaggccag cggcagctta tcaccctcca ggagcaggtg aagctgggca ttgtcaacgt 180
ggatgaggct gtgctccact tcaaagagtg gcagctcaac cagaagarac gatcggagtc 240
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cattcccccct aggacggagc tgagacgagg agactggaaa acagacagca cctccagcac 480
agcaagtagc acaagtaacc gctccagcac ccggagcctc ctcagtgtga gcagcgggat 540
ggaaggggac aacgaggata atgaagtccc tgaggttacc agaagtcgca gtccaggccc 600

cccacaagtg gatgggacac ccaccatgty cctcgagaga ccccccaggg tgcctccgag 660
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<210> 420
<211> 2705
<212> DNA
<213> Homo sapiens

<400> 420
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cttgtagagt tgtactgctt tgatttttga agttggggta gtagttagaa ctagatttaa 180
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agaattatgg gaaacctggt aagcaaaact ttcctcccag ataattgctt ccaaattcga 300
agagttagtc accaagagag ccatatgtat gaaagcgtat ctgtgaaagg taggaaactt 360

acccccccta agtgtaatgt tgctttaggc aactcttgta aatagtgaga cttgtttggt 420
ctcttacatg tagagatttg agtgcagttg gtacagtact ttggtgtctc caccactgtc 480
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aactgttata atttatttaa aagttgaaaa accacccaag atgactacca actttcactt 600
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aaaaa 2705

<210> 421
<211> 1901
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (1828)
<223> n equals a,t,g, or c

<400> 421
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gatccaacaa aaacagacca gaagattacc aaggtggcag aactggtgaa gccattgtag 480
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cycsaggggg ggcccggtcc caattcgccc tatagtgagt c 1901

<210> 422
<211> 2477
<212> DNA
<213> Homo sapiens

<400> 422
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atggacctgg acttgtcagc attgccgtgg tacaagatgg ggacggcagg agggaagtga 180
gaagcccaac taaagcccca catttgcagc tcattgaagg aaagagttca catgagactc 240
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aaaaaaaaaa actcgag 2477

<210> 423
<211> 777
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (759)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (764)
<223> n equals a,t,g, or c

<400> 423
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tgttgccatc atggctgacc ccgacccccg gtaccctcgc tcctcgatcg aggacgactt 120
caactatggc agcagcgtgg cctccgccac cgtgcacatc cgaatggcct ttctgagaaa 180

agtctacagc attctttctc tgcaggttct cttaactaca gtgacttcaa cagtttttt 240
atactttgag tctgtacgga catttgtaca tgagagtcct gccttaattt tgctgtttgc 300
cctcggatct ctgggtttga tttttgcgtt gaytttaaac agacataagt atccccttaa 360
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tttgactgtg tatactctac aatctaagaa ggatttcagc aaatttggag cagggctgtt 540
tgctcttttg tggatattgt gcctgtcagg attcttgaag tttttttttt atagtgagat 600
aatggagttg gtcttagccg ctgcaggagc ccttcttttc tgggggattc atcatctatg 660
acacacacta ctgatgcata aactgtcacc tgaagagtac gtattagctg gcatcaagcc 720
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<210> 424
<211> 1649
<212> DNA
<213> Homo sapiens

<400> 424
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gcgagggcgc gagtgaggag cagacccagg catcgcgcgc cgagaaggcc gggcgtcccc 240
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aaaaaaaaaa aaaaaaaaaa aaaaaaaaa 1649

<210> 425
<211> 1608
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (1598)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1600)
<223> n equals a,t,g, or c

<400> 425
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agtgcagctc ttcgagatca gcctgagcca cggccgcgtc gtctacagcc ccggggagcc 120
gttggctggg accgtgcgcg tgcgcctggg ggcaccgctg ccgttccgag ccatccgggt 180
gacctgcata ggttcctgcg ggtctccaa caaggctaat gacacagcgt gggtagtgga 240
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tcacaagtgc agcctcgtgt tctatatctt gagccccttg aacctgaaca gcatcccaga 480
cattgagcaa cccaacgtgg cctctgccac caagaagttc tcctacaagc tggtgaagac 540
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<210> 426
<211> 1794
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (1789)
<223> n equals a,t,g, or c

<220>
<221> misc feature

<222> (1790)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1793)
<223> n equals a,t,g, or c

<400> 426
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<210> 427
<211> 770
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (14)
<223> n equals a,t,g, or c

<220>

<221> misc feature
<222> (40)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (97)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (618)
<223> n equals a,t,g, or c

<400> 427
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ggagttgggg acccggctgg gccaccatag ccagggnccc tgtctatttt tttaaaaaag 120
taaaaaatag aaattatctc actacttaaa tcccattttt ttcacttcat atgaaagaac 180
atattgatag tatattctat attatttcat agatctgtct gaaagagatt gggaacaaaa 240
atatctaatt gagatattct ttaatttttt acatagcagc tttatttttt ttattctgta 300
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ggaagtttac aatttgcctt tcacaaacat tagcagtccg gggcatggtg gctgragcct 720
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<210> 428
<211> 512
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (18)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (30)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (38)
<223> n equals a,t,g, or c

<220>
<221> misc feature

<222> (484)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (491)
<223> n equals a,t,g, or c

<400> 428
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cactgggaac acttaccgag tgggtgacac ttatgagcgt cctaaagact ccatgatctg 120
ggactgtacc tgcatcgggg ctgggcgagg gagaataagc tgtaccatcg caaaccgctg 180
ccatgaaggg ggtcagtcct acaagattgg tgacacctgg aggagaccac atgagactgg 240
tggttacatg ttagagtgtg tgtgtcttgg taatggaaaa ggagaatgga cctgcaagcc 300
catagctgag aagtgttttg atcatgctgc tgggacttcc tatgtggtcg gagaaacgtg 360
ggagaagccc taccaaggct ggatgatggt agattgtact tgcctgggag aargcagcgg 420
acgcatcact tgcacttcta gaaatagatg caacgwtcag gacacaagga catctataga 480
attngagaca ncttgagcaa gaaggataat cg 512

<210> 429
<211> 1470
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (1346)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1347)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1357)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1387)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1415)
<223> n equals a,t,g, or c

<220>
<221> misc feature

<222> (1454)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1462)
<223> n equals a,t,g, or c

<400> 429
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<210> 430
<211> 434
<212> DNA
<213> Homo sapiens

<400> 430
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gaatccccag cccggaagct ctcccagtcc ttcgcccttc ctgttacggg aggcactgtt 180
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<210> 431

<211> 1823
<212> DNA
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<211> 2553

<212> DNA
<213> Homo sapiens

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<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (2516)
<223> n equals a,t,g, or c

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<211> 2532
<212> DNA
<213> Homo sapiens

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<223> n equals a,t,g, or c

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<211> 1822
<212> DNA
<213> Homo sapiens

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<211> 1030

<212> DNA
<213> Homo sapiens

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cacaaggagt gtatcaaatt ctgggcccag accaacacaa atgacacttg tccctttgt 480
ccaactctta aatgacggac ctgactgggg aggaagaaga agagaaactg atgtgaacag 540
gaagcgcggg ttcaagattt ctaaaactct atatttatac agtgacatat actcatgcca 600
tgtacatttt tattatatag gtaatgtgtg tatagaaagt ctgtattcca atgttcgtaa 660
atgaaactat gtatattatg cagaaacagt ctgttccccc tcatcttgca attcctttgg 720
gggatgcaga ttgtagggaa gatgatgttt agtttggcct tgaaattatg atatccctgc 780
ccagggctgt tttcaaatac aatataaaaa ccacctagga acctgctgtt gctctaaggc 840
cattctgctt tggtttggct cagcctctag tccatttcct taaggctcat gtatgcagat 900
ttaaagcctg gtgctcaccc actgtccaac cagatgcctt gcttaccgaa agcctccaga 960
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aaaaaaaagt 1030

<210> 437
<211> 1632
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (14)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1602)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1616)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1617)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1628)

<223> n equals a,t,g, or c

<400> 437
ggcctgtggc tgtnggccgc gtgcgggtga ccgccgaggg ccgaracatg gttctgcaga 60
cgaccaaggg gctgcggctt ctctttgatg gcgatgccca cctcctcatg tccatcccca 120
gcccccttccg tggacggctc tgtggcctct gtgggaactt caatggcaac tggagtgacg 180
actttgtcct gcccaatggc tcagcagcgt ccagtgtgga gaccttcggg gctgcatggc 240
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gcttggcaga ggagactgca ccctatgaga gcaacgaggc ctgcgggcag ctccggaacc 360
cccagggccc cttcgcgacc tgccaggcgg tgctgagtcc ctctgagtac ttccgccaat 420
gcgtatacga cctgtgcgcg caaaagggtg acaaagcctt cctgtgccgc agcctggcag 480
cctacacggc ggcctgtcag gcagctggcg tggccgtgaa gccctggagg acagacagct 540
tctgcccgct ccattgcccc gcccacagcc actactccat ctgcactcgc acctgccagg 600
gatcctgtgc ggctctctcc ggcctcacgg gctgcaccac ccgctgtttt gagggctgtg 660
agtgcgacga ccgyttcctg ctttcccagg gtgtctgcat ccctgtccaa gattgtggct 720
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tcctgtctgt gggtgccaac ctcaccacct ttgatggggc ccgtggtgcc accacctctc 960
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acggggacca gaccaatgat tggcatgact cccaggagaa gccagcgatg gagaaatgga 1380
gagcgcagga cttctcccca tgttatggct gatcagtcat ccaccaggaa cgaagatttc 1440
ctgaagaaga cctggtccct ctggaggttg crgtggctga aggatgcatc atgtgctcct 1500
accctgctct accgcttttc tgggtcacag aggccaaatg tgagagcatt gaataaatat 1560
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attccccgntt cc 1632

<210> 438
<211> 1016
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (27)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (993)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (994)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (995)
<223> n equals a,t,g, or c

<400> 438
actcgtgccg aattcggcac gagcggncac gagcaagccc catctcatcc tggcacgccc 60
tactccactg ccctggcagc agcaggtgtg gccaatggag gggggtgctg gcccccagga 120
ttccccccagc caaactgtct ttgtcaccac gtggggctca cttttcatcc ttccccaact 180
tccctagtcc ccgtactagg ttggacagcc cccttcggct acaggaaggc aggaggggtg 240
agtcccctac tccctcttca ctgtggccac agccccccttg ccctccgcct gggatctgag 300
tacatattgt ggtgatggag atgcagtcac ttattgtcca ggtgaggccc aagagccctg 360
tggccgccac ctgaggtggg ctggggctgc tcccctaacc ctactttgct tccgccactc 420
agccatttcc ccctcctcag atggggcacc aataacaagg agctcaccct gcccgctccc 480
aacccccctc ctgctcctcc ctgcccccca aggttctggt tccattttc ctctgttcac 540
aaactacctc tggacagttg tgttgttttt tgttcaatgt tccattcttc gacatccgtc 600
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ccctccccca agatactctt tgtggggaag aggggctggg gcatggcagg ctgggtgacc 720
gactacccca gtcccaggga aggtggggcc ctgcccctag gatgctgcag cagagtgagc 780
aagggggccc gaatcgacca taaagggtgt aggggccacc tcctccccct gttctgttgg 840
ggaggggtag ccatgatttg tcccagcctg ggctccctc tctggtttcc tatttgcagt 900
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aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aannnggggg gggccccccc cccccca 1016

<210> 439
<211> 594
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (476)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (519)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (530)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (531)
<223> n equals a,t,g, or c

<220>

<221> misc feature
<222> (539)
<223> n equals a,t,g, or c

<400> 439
ttgaaaaacg ggtcgactgg cmcgwccsgc ccggagccag cggttctcca agcacccagc 60
atcctgctag acgcgccgcg caccgacgga ggggacatgg gcagagcaat ggtggccagg 120
ctcgggctgg ggctgctgct gctggcactg ctcctaccca cgcagattta ttccagtgaa 180
acaacaactg gaacttcaag taactcctcc cagagtactt ccaactctgg gttggcccca 240
aatccaacta atgccaccac caaggyggct ggtggtgccc tgcagtcaac agccagtctc 300
ttcgtggtct cactctctct tctgcatctc tactcttaag agactcaggc caagaaacgt 360
cttctaaatt tccccatctt ctaaacccaa tccaaatggc gtctggaagt ccaatgtggc 420
aaggaaaaac aggtcttcat cgaatctact aattccacac cttttaaaaa tttttnggga 480
acccaaccca aagggtaaaa aaaaaaaaaa atttggggnt tttttgggn naaaggggna 540
aaaaaaattt ttcccccccc ccccaaaaaa aaaaaaaaat ttttttttt tttt 594

<210> 440
<211> 1580
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (873)
<223> n equals a,t,g, or c

<400> 440
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cccggggcca tgctgcctgc agccacagcc tccctcctgg ggcccctcct cactgcctgc 180
gccctgctgc cttttgccca gggccagacc cccaactaca ccagacccgt gttcctgtgc 240
ggaggggatg tgaaggggga atcaggttac gtggcaagtg aggggttccc caacctctac 300
ccccctaata aggagtgcat ctggaccata acggtccccg agggccagac tgtgtccctc 360
tcattccgag tcttcgacct ggagctgcac cccgcctgcc gctacgatgc tctggaggtc 420
ttcgctgggt ctgggacttc cggccagcgg ctcggacgct tttgtgggac cttccggcct 480
gcgcccctag tcgcccccgg caaccaggtg accctgagga tgacgacgga tgagggcaca 540
ggaggacgag gcttcctgct ctggtacagc gggcgggcca cctcgggcac tgagcaccaa 600
ttttgcgggg ggcggctgga gaaggcccag ggaaccctga ccacgcccaa ctggcccgag 660
tccgattacc ccccgggcat cagctgttcc tggcacatca tcgcgccccc ggaccaggtc 720
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gtcagcgtgt tcaacggagc cgtgagcgac gactcccgga ggctggggaa gttctgcggc 840
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gatctcagtg tcaccgctga tggcttctca gcctcctaca agaccctgcc gcggggcact 960
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tatctgctga tgggccaggt agaagagaac agaggccccg tccttcctcc agagagcttt 1380
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ccctctcaac ctgtgcgggc tgctgcgtcc caggactgag acgcaggcca gccccggccc 1500
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tctccatgct tatggtaaaa 1580

<210> 441
<211> 1082
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (136)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (462)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (465)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1074)
<223> n equals a,t,g, or c

<400> 441
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tccgctgggt gtcactcggg ggtggggaag atggcccatt caaaagcgcc gcgagggggc 120
ccggccagtg cccttnagtg agcgctcgca agaggacggc agaggcccgg cagctcggag 180
ctccgggacc ttgtggcgca tcaggacgcg gctgtccctc tgccgggacc cagagccgcc 240
gccgccgctc tgcctcctgc gtgttagcct cctctgcgcg ctccgggcag gcggccgtgg 300
gagccgctgg ggcgaggacg gcgcgaggct gctgctgctg cccccggccc gcgcggctgg 360
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cggctgcaaa gcgctgaagg agggcgtgct ggagaagcgc anacngggtt gttgcagctc 480
tggaagaaaa agtgttgcat cctcaccgag gaagggctgc tgcttatccc gcccaagcag 540
ctgcaacacc agcagcagca gcaacagcag cagcagcagc agcaacaaca gcccgggcag 600
gggccggccg agccgtccca acccagtggc cccgctgtcg ccagcctcga gccgccggtc 660
aagctcaagg aactgcactt ctccaacatg aagaccgtgg actgtgtgga gcgcaagggc 720
aagtacatgt acttcactgt ggtgatggca gagggcaagg agatcgactt tcggtgcccg 780
caagaccagg gctggaacgc cgagatcacg ctgcagatgg tgcagtacaa gaatcgtcag 840
gccatcctgg cggtcaaatc cacgcggcag aagcagcagc acctggtcca gcagcagccc 900
ccctcgcagc cgcagccgca gccgcagctc cagccccaac cccagcctca gcctcagccg 960
caaccccagc cccaatcaca accccagcct cagccccaac ccaagcctca gccccagcag 1020
ctccamccgt atycgcatyc amattcamat ycamaatctt atccttmatt tggnaaccaa 1080
aa 1082

<210> 442

<211> 1241
<212> DNA
<213> Homo sapiens

<400> 442
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ctgcagctcg cttcaagatg gccgcttgct cgcattcatt ttctgctgaa cgacttttaa 120
ctttcattgt cttttccgcc cgcttcgatc gcctcgsgcc ggctgctctt tccgggattt 180
tttatcaagc agaaatgcat cgaacaacga gaatcaagat cactgagcta aatccccacc 240
tgatgtgtgt gctttgtgga gggtacttca ttgatgccac aaccataata gaatgtctac 300
attccttctg taaaacgtgt attgttcgtt acctggagac cagcaagtat tgtcctattt 360
gtgatgtcca agttcacaag accagaccac tactgaatat aaggtcagat aaaactctcc 420
aagatattgt atacaaatta gttccagggc ttttcaaaaa tgaaatgaag agaagaaggg 480
atttttatgc agctcatcct tctgctgatg ctgccaatgg ctctaatgaa gatagaggag 540
aggttgcaga tgaagataag agaattataa ctgatgatga gataataagc ttatccattg 600
aattctttga ccagaacaga ttggatcgga aagtaaacaa agacaaagag aaatctaagg 660
aggaggtgaa tgataaaaga tacttacgat gcccagcagc aatgactgtg atgcacttaa 720
gaaagtttct cagaagtaaa atggacatac ctaatacttt ccagattgat gtcatgtatg 780
aggaggaacc tttaaaggat tattatacac taatggatat tgcctacatt tatacctgga 840
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gtactccagt gcagtctcct catccacagt ttcctcacat ttccagtact atgaatggaa 1080
ccagcaacag ccccagcggt aaccaccaat cttcttttgc caatagacct cgaaaatcat 1140
cagtaaatgg gtcatcagca acttcttctg gttgatacct gagactgtta aggaaaaaaa 1200
aaaaaaaaaa accccggccg ctcccacttc agattggtaa c 1241

<210> 443
<211> 968
<212> DNA
<213> Homo sapiens

<400> 443
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actctgtaat aaaaaatcta cagtcacgtt ggagatcacc atcccatgaa aattctattt 120
agtattttca gagaaaattg aaggtttttt taaacatcac tggatttctt gattgaggaa 180
acaagttctg aaataatagc acaatttcaa agaagagact ctttgcaaag ttgataacat 240
ttcaaaccct gaaggacagt gacttattat gtwagttcaa tkttgtaagt ycattatgtw 300
agatcctttt tttttttcat aatatgtatt cttggctgct atgcgtggtt tttcaggaaa 360
tttaattatc ttactgagat gtgaaagcaa aactagtaac agaacttaca ttttatttca 420
tgctttctta aacccgtgca tattctggtg aaacatgtaa aatactttaa gtaaaattga 480
acatttttat ttgaattttt gctgaactga taaaggtgtt tatatttttg tttgttkgtt 540
tgtttaattc atgtttgttg ggactgaggt ttaggaagtt tgttactggt taaaaacctc 600
aaatgaaatg cgaaagaatt tgaatttttc ctgcatatgt caactttgga cagctttcaa 660
gaaaaatgag aaaagtttca acttctggcg gttaaaatat taatgcagaa tttactaaga 720
ttttattcat ttgcattagc aaatattcat gcagcagcag ttgactgaaa atttattctt 780
atgagacgta tagtattcat ttttaaatgc atgattgtac attatgtata gacgacaatg 840
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aataccttgg ttctgttcaa tagaaacatt ttgtatatat traatactga aatatcaaaa 960
aaaaaaaa 968

<210> 444
<211> 1360
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (114)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (302)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (330)
<223> n equals a,t,g, or c

<400> 444
cgccggagcg tcatctgcga ctccaatgcc actgcactgg agcttcccgg ccttcctctt 60
tccctgcccc agcccagcat ccccgcggct gtcccgcaga gtgctccacc gganccccac 120
cgggaagaga ccgtgaccgc caccgccact tcccaggtag cccagcagcc tccagccgct 180
gccgcccctg gggaacaggc cgtcgcgggc cctgcccctc gactgtcccc agcagtacca 240
gcaaagaccg cccagtgtcc cagcctagcc ttgtggggag caaagaggag ccgccgccgg 300
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caggatgata tcgaagagct ggagaccaag gccgtgggaa tgtctaacga tggccgcttt 420
ctcaagtttg acatcgaaat cggcagaggc tcctttaaga cggtctacaa aggtctggac 480
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gagaggcaga gatttaaaga agaagctgaa atgttaaaag gtcttcagca tcccaatatt 600
gttagatttt atgattcctg ggaatccaca gtaaaaggaa agaagtgcat tgttttggtg 660
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ccagccagtt ttgacaaagt agcaattcct gaagtgaagg aaattattga aggatgcata 1140
cgacaaaaca aagatgaaag atattccatc aaagaccttt tgaaccatgc cttcttccaa 1200
gaggaaacag gagtacgggt agaattagca gaagaagatg atggagaaaa aatagccata 1260
aaattatggc tacgtattga agatattaag aaattaaagg gaaaatacaa agataaaaaa 1320
aaaaaaaaaa aaaaaaaaaa aaaaaacacc caccgtgccg 1360

<210> 445
<211> 1835
<212> DNA
<213> Homo sapiens

<220>

<221> misc feature
<222> (326)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1229)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1738)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1747)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1758)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1801)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1806)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1831)
<223> n equals a,t,g, or c

<400> 445
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cttggccaag ctgcagggga tttgggggat gtgggacctc caattcccag ccccggcttc 120
agctctttcc caggtgttga ctccagctcc agcttcagct ccagctccag gtcgggctcc 180
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cccgtggaca gagtggaacg yttggnaatt cacagctcat gttctttctc agaagtttga 360
gaaagaactt tccaaagtga gggaatatgt ccaattaatt agtgtgtatg aaaagaaact 420
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gactctcttg gtagagaagc ttgagacact agacaaaaac aatgtccttg ccattcgccg 660

agaaatcgtg gctctgaaga ccaagctgaa agagtgtgag gcctctaaag atcaaaacac 720
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gcaggaaaaa gtgcagagca ttaactataa ccctttttgac cagaaacttt atgtctataa 1500
cgatggttac cttctgaatt atgatctttc tgtcttgcag aagccccagt aagctgttta 1560
ggagttaggg tgaaagagaa aatgtttgtt gaaaaaatag tcttctccac ttacttagat 1620
atctgcaggg gtgtctaaaa gtgtgttcat tttgcagcaa tgtttargtg catagttcta 1680
ccacactaga gatctaggac atttgtcttg atttggtgag tctcttgggg atcatctngc 1740
ytttcangcg cmttttgnca taaagtcygt cyagggtggg attgtcagag gtctaggggc 1800
ncttgngggc ctaatggaac ccttctgtga ngaag 1835

<210> 446
<211> 1355
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (55)
<223> n equals a,t,g, or c

<400> 446
ggcacgagcg cgtcgcacgg gaagtcgaag cggagatccc ggggtcgcgc gaganccgca 60
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agaagtggag gagctcgccg aggaggtgct ggcggacaag cggcagattg tggacctgga 180
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tgaagatgtg atggtttgct tcgggaacat gtttatcaag atgcctcacc ctgagacaaa 300
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gaawaaaaaa aaaaaaaaaa amawaaaaaa aaaaa 1355

<210> 447
<211> 375
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (153)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (313)
<223> n equals a,t,g, or c

<400> 447
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gtctggaggt gagctaatgg atgagtgaat atnagcagtg ggtgttcctc atctctttga 180
ggatttgcct cagagttcac taccaaggga tttctggaac taggwgccat tctttacatc 240
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caacgctaac acggg 375

<210> 448
<211> 1393
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (1360)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1383)
<223> n equals a,t,g, or c

<400> 448
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caagaacgag aagaatgatg gtgcttgtta ggggatgtcc tgtctctctg aactttgggg 120
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cagccagaac atttgtggtc tatttctctg ttagtgttta accaaccatc tgttctaaaa 360

gaagggctga actgatggaa ggaatgctgt tagcctgaga ctcaggaaga caacttctgc 420
agggtcactc cctggcttct ggaggaaaga gaaggagggc agtgctccag tggtacagaa 480
gtgagacata atggaatcag gcttcacctc caaggacacc tatctaagcc attttaaccc 540
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cctgctgatt gacatcggct ctggccccac tatctatcag ctcctctctg cttgtgaatc 720
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gaggaagctg agcagacccc tgtgatgcct gtgacctcaa ttaaagcaat tcctttgacc 1320
tgtcaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaan aaaaaaaaaa aaaaaaaaaa 1380
aanaaaaaaa aaa 1393

<210> 449
<211> 1663
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (57)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (180)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (621)
<223> n equals a,t,g, or c

<400> 449
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ggacttggag aagttggtga ccagggtaaa agtaggcagc gagccagcaa aagactgttt 120
gccagcaaag ccctcagagg ccacctcaga ccggtcagag ggcagcagcc gggacgcagn 180
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aagtctgtta gaactgctgt gctgatcaac gggacgctcc gtctttgaag aaagaagaga 420
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ccacactgcc ccccatttga gtacrccgca caagtcaaac gctaggaagt ttgaataaaa 1560
ccaattttc taacttgttg ctcatttgtt gtaactcaat aaagcaaaga ctaaacattt 1620
ttataaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaa 1663

<210> 450
<211> 1380
<212> DNA
<213> Homo sapiens

<400> 450
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cttctagacg acaaaatgca aaaaaggagg ccaaagactt ttggaatgga tatgaaagca 180
tacctgagat ctatgatccc acatctggaa tctggaatga aatcttccaa gtccaaggat 240
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caaactggtc aaaatgtctt tggaagtttc ctaaagtctg aattcagtga ggagaatatt 360
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gcagaagaga tatataaagc atttgtgcat tcagatgctg ctaaacaaat caatattgac 480
ttccgcactc gagaatctac agccaagaag attaaagcac caaccccac gtgttttgat 540
gaagcacaaa aagtcatata tactcttatg gaaaaggact cttatcccag gttcctcaaa 600
tcagatattt acttaaatct tctaaatgac ctgcaggcta atagcctaaa gtgactggtc 660
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cctgggtgaa cagcttggcc ttttttgggt gtcttgacag gccaagaaga acaaatgact 780
cagaatggat taacatgaaa gttatccagg cgcagagttg aagaagcata agcaagacaa 840
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cctcagattt taaaaataaa taaataattc atttaaraaa aaaaaaaaaa aaaactcgag 1380

<210> 451
<211> 926
<212> DNA

<213> Homo sapiens

<220>
<221> misc feature
<222> (687)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (865)
<223> n equals a,t,g, or c

<400> 451
gttgcatctt cttgctgtcc tagaaaaaat gatttcacag ggtaacaata acaaaaatgg 60
aaagaatgag actggtaata acaacaacaa agatggatct aatcataaag ctgaaagtgg 120
agctctaata gaagctgcaa aatcaaagat acatcagtac aaagtacgag cttatatcca 180
aatgaagtct ctgaaagcat gtaaaaggga aatcaagtca gtcatgaata cagctggaaa 240
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gcacaatttg ggaatattct actttaaaaa ggctctgcaa gagaatgaca atgtctgtgc 480
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<210> 452
<211> 1642
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (147)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (150)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1608)
<223> n equals a,t,g, or c

<400> 452

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gggctcacac ttacccgcgc ggaggancan cggccgggtg tccaccccca tcctgcgccc 180
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aatatttcag tcaataagtt ttaacagaga gaaactccct tccagcgaag tggtgaaatt 420
tggccgaaat tccaacatct gtcattatac ttttcaggac aaacaggttt cccgagttca 480
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<210> 453
<211> 2254
<212> DNA
<213> Homo sapiens

<400> 453
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gacatgcaga ggaccgcaga gcctcctgca cctragttct agactcaacg gtgctctgcg 120
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gagtttgatt ataaaaaaaa aaaaaaaaaa aaaa 2254

<210> 454
<211> 1931
<212> DNA
<213> Homo sapiens

<400> 454
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cggatgctgc tggccctgaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1920
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<210> 455
<211> 771
<212> DNA
<213> Homo sapiens

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<210> 456
<211> 1169
<212> DNA
<213> Homo sapiens

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<221> misc feature
<222> (1164)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1167)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1169)
<223> n equals a,t,g, or c

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<210> 457
<211> 3249
<212> DNA
<213> Homo sapiens

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<222> (3234)
<223> n equals a,t,g, or c

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<210> 458
<211> 1916
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (1895)
<223> n equals a,t,g, or c

<220>
<221> misc feature

<222> (1902)
<223> n equals a,t,g, or c

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<210> 459
<211> 2773
<212> DNA
<213> Homo sapiens

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<210> 460
<211> 2031
<212> DNA
<213> Homo sapiens

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<210> 461
<211> 1839
<212> DNA
<213> Homo sapiens

<220>
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<222> (1496)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1832)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1839)
<223> n equals a,t,g, or c

<400> 461

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<210> 462
<211> 779
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (26)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (731)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (737)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (759)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (762)
<223> n equals a,t,g, or c

<400> 462
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agcagccccc aggcccggag gacgaggact ccagcctgga tgaatctgac ctctatagcc 240
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ctgggaatgg agggcagagc caggaagatc ccccagaaaa gaaagctaca gaagaaactg 660
gggctcctcc agggtggcag caacaataaa tagacacgca cggcarccam aaaaaaaaaa 720
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<210> 463
<211> 1717
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (5)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (27)
<223> n equals a,t,g, or c

<400> 463
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tgatctttga tgactattac wcataacagc actctagcac cttwtcttac tggcatggac 120
ttcctcatgg actgctactt catggatgat agcttcattg ctttgggtag ggatttaagg 180
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gttatattca ttgttggctt accttatcaa actgtgccat taatcctttc acagacatag 360
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atcttgttts tttcgtgaga gatctcgcca tggcagcatc ttgttaagta agtgtaattg 540

cacatgcaca aaagacttaa ctagctttac atttagcagt cagttggtta gattaggttt 600
catagtaaat gaataggaat agaaagaata ggaagtgttt ttattttcca gtagtaattc 660
cgtggattcc atttgaccca gtttactatc agttcagttc aggtagattt ggttcaactt 720
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catcttccct tttgaaaaaa aaaaaaaaaa aaaaaag 1717

<210> 464
<211> 828
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (787)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (819)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (827)
<223> n equals a,t,g, or c

<400> 464
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ggcggcggag gctgaccccc taggacgctt cacgtgtccc gtgtgcttag aggtgtacga 120
gaagccggta caggtgccct gcggacacgt cttttgctct gcatgcctgc aggaatgtct 180
gaagccgaag aagcctgtct gtggggtgtg tcgcagcgct ctggcacctg gcgtccgagc 240
cgtggagctc gagcggcaga tcgagagcac agagacttct tgccatggct gccgtaagaa 300
tttcttcctg tccaagatcc ggtcccacgt ggctacttgt tccaaatacc agaattacat 360
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ccgttacacc tttccttgtc cttactgtcc tgagaagaac tttgatcagg aaggacttgt 480
ggaacactgc aaattattcc atagcacgga taccaaatct gtggtttgtc cgatatgtgc 540

ctcgatgccc tggggagacc ccaactaccg cagcgccaac ttcagagagc acatccagcg 600
ccggcaccgg ttttcttatg acacttttgt ggattatgat gttgatgaag aggacatgat 660
gaatcaggtg ttgcagcgct ccatcatcga ccagtgagca gagtccgtgc ttgctatctg 720
tctcatgtta cagagcttcc attacatatt aaacgtgaaa tctatgaaaa aaaaaaaggg 780
ggggggnccc ggttacccca atttcggccc tattaggtna agtcgtna 828

<210> 465
<211> 1173
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (137)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1166)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1168)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1171)
<223> n equals a,t,g, or c

<400> 465
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gcgtttcagg cccttgntca ctcaatgacc tccagttctt tagatacaac agtaaagaca 180
ggaagtctca gcccatggga ctctggagac aggtggaagg aatggaggat tggaagcagg 240
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agaataacag aagcagcgga cattctggaa atattactat gatggaaagg actacattga 420
attcaacaaa gaaatcccag cctgggtccc cttcgaccca gcagcccaga taaccaagca 480
gaagtgggag gcagaaccag tctacgtgca gcgggccaag gcttacctgg aggaggagtg 540
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atttggagac cgaagactgg gatgcctgtc ttgagtagac ttggacccaa aaatcatct 1080
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tccttgccta gcaaaaaaaa aaaaangngg ngg 1173

<210> 466
<211> 521
<212> DNA
<213> Homo sapiens

<400> 466
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tgctggacat gtcctacgag cagctgatgc agctgtacag tgcgcgccag gcggcggctg 180
aaccggggcc tgcggcggaa gcagcactcc ctgctgaagc gcctgcgcaa ggccaagaag 240
gaggcgccgc ccatggagaa gccggaagtg gtgaagacgc acctgcggga catgatcatc 300
ctacccgaga tggtgggcag catggtgggc gtytacaacg gcaagacctt caaccaggtg 360
gagatcaagc ccgagatgat cggccactac ctgggcgagt tctccatcac ctacaagccc 420
gtaaagcatk gccggcccgg catcggggcc acccactsct cccgmttcat ccctctcaag 480
taatggctca gytaataaag gcgsacatga ctccaaaaaa a 521

<210> 467
<211> 1428
<212> DNA
<213> Homo sapiens

<400> 467
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<210> 468
<211> 3463

<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (1187)
<223> n equals a,t,g, or c

<400> 468
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ggagccatgg ccaccgctaa cggggccgtg gaaaacgggc agccggacag gaagccgccg 120
gccctgccgc gccccatccg caacctggag gtcaagttca ccaagatatt tatcaacaat 180
gaatggcacg aatccaagag tgggaaaaag tttgctacat gtaacccttc aactcgggag 240
caaatatgtg aagtggaaga aggagataag cccgacgtgg acaaggctgt ggargctgca 300
caggttgcct tccagagggg ctcgccatgg cgccggctgg atgccctgag tcgtgggcgg 360
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gaatgataaa ataaaattgg atatttgaga aaaaaaaaaa aaa 3463

<210> 469
<211> 621
<212> DNA
<213> Homo sapiens

<400> 469
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ctgggagact gaaaaaatgc agaccgccgg ggcattattc atttctccag ctctgatccg 120
ctgttgtacc aggggtctaa tcaggcctgt gtctgcctcc ttcttgaata gcccagtgaa 180
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gaccagtgtt gtctcccggg acattgacac agcagccaag tttattggtg ctggggcagc 300
cacagttggt gtggctggtt caggggctgg cattggaacc gtgtttggca gcttgatcat 360
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tgccctgtct gaggccatgg ggcttttctg tttgatggtc gccttcctca tcctcttcgc 480
catgtgaggc tccatggggg gtcaccggcc tgttgctact gcaactccac accattcttg 540
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<210> 470
<211> 1833
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (126)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (386)
<223> n equals a,t,g, or c

<220>

<221> misc feature
<222> (524)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1798)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1812)
<223> n equals a,t,g, or c

<400> 470
tacgaccgac gagccggtgt cgtggtcgcg gtacctgttc caacacggct cgcgggcccg 60
tgccggctcc ggtccccggc gcggctgtcc gagcccctgc ggcgggcgga cgatggtgtg 120
gcggancacg cagacgcggg cggcmgcggc ggcgggcatg aaggaggatg gaagggcagg 180
acgaggtgtc ggcgcgggag cagcacttcc acagccaagt gcgggagtcc acgatatgtt 240
tccttctttt tgccattctc tacgttgttt cctacttcat catcacaaga tacaagagaa 300
aatcagatga acaagaagat gaagatgcca tcgtcaacag gatttcgttg tttttgagca 360
cgttcactct cgcagtgtca gctggngctg ttttgctttt acccttctca atcatcagca 420
atgaaatcct gctttctttt cctcagaact actatattca gtggctaaat ggctccctga 480
ttcatggttt gtggaatctt gcttcccttt tttccaacct ttgnttattt gtattgatgc 540
cctttgcctt tttctttctg gaatcagaag gctttgctgg cctgaaaaag ggaatccgag 600
cccgcatttt agagactttg gtcatgcttc ttcttcttgc gttactcatt cttgggatag 660
tgtgggtagc ttcagcactc attgacaacg atgccgcaag catggaatct ttatatgatc 720
tctgggagtt ctatctaccc tatttatatt cctgtatatc attgatggga tgtttgttac 780
ttctcttgtg tacaccagtt ggcctttctc gtatgttcac agtgatgggt cagttgctag 840
tgaagccaac aattcttgaa gacctggatg aacaaattta tatcattacc ttagaggaag 900
aagcactcca gagacgacta aatgggctgt cttcatcggt ggaatacaac ataatggagt 960
tggaacaaga acttgaaaat gtaaagactc ttaagacaaa attagatcct tggagttctt 1020
tttctgtgct tcagtctcct gtctggcact ttgctgcaca gactccagct gacatagtct 1080
ccccagattc ccatttcatg ctctcaactc aagggatgag ctgggctcag cttgtgttcc 1140
tccttcctgc atcacggcct ggaaactctc aagacaagag gcgaaaaaag gcttcagcat 1200
gggaaagaaa tttggtgtat cccgctgtta tggttctcct tcttattgag acatccatct 1260
cggtcctctt ggtggcttgt aatattcttt gcctattggt tgatgaaaca gcaatgccaa 1320
aaggaacaag ggggsctgga ataggaaatg cctctctttc tacgtttggt tttgtgggag 1380
ctgcgcttga aatcattttg attttctatc ttatggtgtc ctctgttgtc ggcttctata 1440
gccttcgatt ttttggaaac tttactccca agaaagatga cacaactatg acaaagatca 1500
ttggaaattg tgtgtccatc ttggttttga gctctgctck gcctgtgatg tcgagaacac 1560
tggggcttca taaacttcac ttaccaaata cttcaaggga ttcagaaaca gccaagcctt 1620
ctgtaaatgg gcatcagaaa gcactgtgag acgcacagac ggcgtcttct gccaccaaga 1680
gaccgagaac tccagattca cgacattcct gtcccatgta gaagcatttc cattcatccg 1740
tgggccctct tcagaaccta gamctatcag tggcattttt ttttcataat ctacgaanaa 1800
cttggctatg gntgatcttt tttaaattta act 1833

<210> 471
<211> 3202
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (4)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (3160)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (3180)
<223> n equals a,t,g, or c

<400> 471
cggnacgcgt gggactgcaa cggagagact caagatgatt ccctttttac ccatgttttc 60
tctactattg ctgcttattg ttaaccctat aaacgccaac aatcattatg acaagatctt 120
ggctcatagt cgtatcaggg gtcgggacca aggcccaaat gtctgtgccc ttcaacagat 180
tttgggcacc aaaaagaaat acttcagcac ttgtaagaac tggtataaaa agtccatctg 240
tggacagaaa acgactgtgt tatatgaatg ttgccctggt tatatgagaa tggaaggaat 300
gaaaggctgc ccagcagttt tgcccattga ccatgtttat ggcactctgg gcatcgtggg 360
agccaccaca acgcagcgct attctgacgc ctcaaaactg agggaggaga tcgagggaaa 420
gggatccttc acttactttg caccgagtaa tgaggcttgg gacaacttgg attctgatat 480
ccgtagaggt ttggagagca acgtgaatgt tgaattactg aatgctttac atagtcacat 540
gattaataag agaatgttga ccaaggactt aaaaaatggc atgattattc cttcaatgta 600
taacaatttg ggggcttttca ttaaccatta tcctaatggg gttgtcactg ttaattgtgc 660
tcgaatcatc catgggaacc agattgcaac aaatggtgtt gtccatgtca ttgaccgtgt 720
gcttacacaa attggtacct caattcaaga cttcattgaa gcagaagatg acctttcatc 780
ttttagagca gctgccatca catcggacat attggaggcc cttggaagag acggtcactt 840
cacactcttt gctcccacca atgaggcttt tgagaaactt ccacgaggtg tcctagaaag 900
gatcatggga gacaaagtgg cttccgaagc tcttatgaag taccacatct taaatactct 960
ccagtgttct gagtctatta tgggaggagc agtctttgag acgctggaag gaaatacaat 1020
tgagatagga tgtgacggtg acagtataac agtaaatgga atcaaaatgg tgaacaaaaa 1080
ggatattgtg acaaataatg gtgtgatcca tttgattgat caggtcctaa ttcctgattc 1140
tgccaaacaa gttattgagc tggctggaaa acagcaaacc accttcacgg atcttgtggc 1200
ccaattaggc ttggcatctg ctctgaggcc agatggagaa tacactttgc tggcacctgt 1260
gaataatgca ttttctgatg atactctcag catggatcag cgcctcctta aattaattct 1320
gcagaatcac atattgaaag taaaagttgg ccttaatgag ctttacaacg ggcaaatact 1380
ggaaaccatc ggaggcaaac agctcagagt cttcgtatat cgtacagctg tctgcattga 1440
aaattcatgc atggagaaag ggagtaagca agggagaaac ggtgcgattc acatattccg 1500
cgagatcatc aagccagcag agaaatccct ccatgaaaag ttaaaacaag ataagcgctt 1560
tagcaccttc ctcagcctac ttgaagctgc agacttgaaa gagctcctga cacaacctgg 1620
agactggaca ttatttgtgc caaccaatga tgcttttaag ggaatgacta gtgaagaaaa 1680
agaaattctg atacggacaa aaaatgctct tcaaaacatc attctttatc acctgacacc 1740
aggagttttc attggaaaag gatttgaacc tggtgttact aacattttaa agaccacaca 1800
aggaagcaaa atctttctga aagaagtaaa tgatacactt ctggtgaatg aattgaaatc 1860
aaaagaatct gacatcatga caacaaatgg tgtaattcat gttgtagata aactcctcta 1920
tccagcagac acacctgttg gaaatgatca actgctggaa atacttaata aattaatcaa 1980
atacatccaa attaagtttg ttcgtggtag caccttcaaa gaaatccccg tgactgtcta 2040

taagccaatt attaaaaaat acaccaaaat cattgatgga gtgcctgtgg aaataactga 2100
aaaagagaca cgagaagaac gaatcattac aggtcctgaa ataaaataca ctaggatttc 2160
tactggaggt ggagaaacag aagaaactct gaagaaattg ttacaagaag aggtcaccaa 2220
ggtcaccaaa ttcattgaag gtggtgatgg tcatttattt gaagatgaag aaattaaaag 2280
actgcttcag ggagacacac ccgtgaggaa gttgcaagcc aacaaaaaag ttcaaggatc 2340
tagaagacga ttaagggaag gtcgttctca gtgaaaatcc aaaaaccaga aaaaaatgtt 2400
tatacaaccc taagtcaata acctgacctt agaaaattgt gagagccaag ttgacttcag 2460
gaactgaaac atcagcacaa agaagcaatc atcaaataat tctgaacaca aatttaatat 2520
tttttttct gaatgagaaa catgagggaa attgtggagt tagcctcctg tggtaaagga 2580
attgaagaaa atataacacc ttacaccctt tttcatcttg acattaaaag ttctggctaa 2640
ctttggaatc cattagagaa aaatccttgt caccagattc attacaattc aaatcgaaga 2700
gttgtgaact gttatcccat tgaaaagacc gagccttgta tgtatgttat ggatacataa 2760
aatgcacgca agccattatc tctccatggg aagctaagtt ataaaaatag gtgcttggtg 2820
tacaaaactt tttatatcaa aaggctttgc acatttctat atgagtgggt ttactggtaa 2880
attatgttat tttttacaac taattttgta ctctcagaat gtttgtcata tgcttcttgc 2940
aatgcatatt ttttaatctc aaacgtttca ataaaaccat ttttcagata taaagagaat 3000
tacttcaaat tgagtaattc agaaaaactc aagatttaag ttaaaaagtg gtttggactt 3060
gggaacagga ctttatacct cttttactgt aacaagtact cattaaagga aattgaatga 3120
aaaaaaaaaa aaaaaagggg cggccgctc taagagggtn ccctcgaggg gggcccaagn 3180
tttacgcggg gcatgccgac gt 3202

<210> 472
<211> 941
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (927)
<223> n equals a,t,g, or c

<400> 472
gttccaagtg cccсttactg acccgagaga cgtcattgcc gcagagggac ctatgggcgc 60
atataggttg taatgaaact gtagtctcag ttggaagcct agacatgaaa tgggtcagtg 120
agcaaggctc tattcctagt ctccagccat gcctgtggca acctgagccc gctctcagca 180
cattggaccc aggcagatgy aaaaaattca cagaactatg atttggactc aagggtttgt 240
agatttcctc cttcattcta atttcagtgt ctaaaattct tgcatccrtg aacgagctgg 300
gcatttgatg agacagggcy gaatactgca gttttcctcc tagaaatcmt ctggggcatt 360
ttctttgaac tgatgggaac aataaggcat aactgtttgc acaaacttgg gataartgat 420
tttgggataa cgatctacca gaatggggat atttcaccct tggttctgag atgcaaacca 480
aagaatatca tgaccagctt tcaggcctcc tgaagtatat ctctcacatt gtcctgttct 540
catgctgagg agcctgagat ccctgtgtgg ggattagaca gtggactgtt atgggtgtag 600
gtgaattggc ttattttgtc tgtccctgtc tgaatgtatt gcaggaatta aaaaggacca 660
agaagaggaa gaagaccaag gcccaccatg ccccaggctc agcagggagc tgctggaggt 720
agtagagcct gaagtcttgc aggactcact ggatagatgt tattcaactc cttccagttg 780
tcttgwaaca gcctgactcc tgccwgccct ayrgaagttc cttttatgca ttggaggaaa 840
aacatgttgg cttttctctt ggacgtggga gaaattgaaa agaaggggaa ggggaagaaa 900
agaaggggaa gaagatcaaa gaagganaga agaaggggac g 941

<210> 473
<211> 1279

<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (1144)
<223> n equals a,t,g, or c

<220>
<221> misc feature
<222> (1273)
<223> n equals a,t,g, or c

<400> 473
tcccgggtcg acccacgcgt ccgcggacgc gtgggatcaa caaactcatc cgaattggca 60
ggaatgagtg tgtggttgtc attagggtgg acaaagaaaa aggatatatt gatttgtcaa 120
aaagaagagt ttctccagag gaagcaatca aatgtgaaga caaattcaca aaatccaaaa 180
ctgtttatag cattcttcgt catgttgctg aggtgttaga atacaccaag gatgagcagc 240
tggaaagcct attccagagg actgcctggg tctttgatga caagtacaag agacctggat 300
atggtgccta tgatgcattt aagcatgcag tctcagaccc atctattttg gatagtttag 360
atttgaatga agatgaacgg gaagtactca ttaataatat taataggcgc ttgaccccac 420
aggctgtcaa aattcgagca gatattgaag tggcttgtta tggttatgaa ggcattgatg 480
ctgtaaaaga agccctaaga gcaggtttga attgttctac agaaaacatg cccattaaga 540
ttaatctaat agctcctcct cggtatgtaa tgactacgac aaccctggag agaacagaag 600
gcctttctgt cctcagtcaa gctatggctg ttatcaaaga gaagattgag gaaaagaggg 660
gtgtgttcaa tgttcaaatg gagcccaaag tggtcacaga tacagatgag actgaacttg 720
cgaggcagat ggagaggctt gaaagagaaa atgccgaagt ggatggagat gatgatgcag 780
aagaaatgga agccaaagct gaagattaac tttgtgggaa acagagtcca atttaaggaa 840
cacagagcag cgcttcctgg ctgtaaatcc tagacttgaa agttttccag tattgaaaac 900
ttcaaagctg aatatttttt atttctaagt atttaaatgt tctaacagat cagaacatga 960
aatgccctcc taaatgtcag ctgttgtcac acagtagctc caacactttg agcattttta 1020
agggagtggc ctcatttcac tagagacaaa tctttaagaa tagttctaaa attgggcttg 1080
tgatttccat ttctgatgtc tccagattgg cacccctttc tagttcaatg cctcacgaga 1140
tttnccaggg gcatccaagg caaacaatcc caatctttct atataaaatg tattcaagca 1200
aacatcaaat aaatttctgg gatatttaaa aaaaaaaaaa aaaaaggggg gggccttaaa 1260
gaaccaagtt tantttggg 1279

<210> 474
<211> 3209
<212> DNA
<213> Homo sapiens

<220>
<221> misc feature
<222> (427)
<223> n equals a,t,g, or c

<400> 474
caactcccgg gacacatcct tcgagcagca tgtgctgtgg caacgggcgg gaagggcgtt 60
gacctggtct tgaactcctt ggcggaagag aagctgcarg ccagcgtgag gtgcttggct 120
acgcacggtc gcttcctgga aattggcaaa ttcgaccttt ctcagaacca mccgctcggc 180